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CHEMISTRY · EAPCET (EAMCET)

Mole Concept & Stoichiometry

Previous Year Questions with answers

188 questions · **117** papers · **2010–2026** · newest paper first

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What is in this PDF: every Mole Concept & Stoichiometry question we hold from past AP and TS EAPCET (called EAMCET until 2020 in Andhra Pradesh and 2023 in Telangana) papers, with its options and answer. Where an answer comes from a source other than the official final key, it says so next to the answer.

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Chapter at a glance

2.8%
of Chemistry questions, 2022–2026

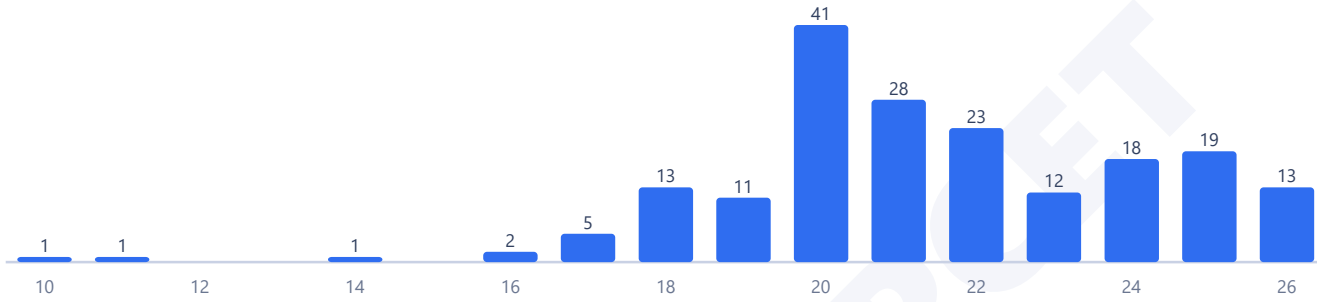
188
questions, 2010–2026

61 of 77
papers asked it, 2022–2026

188 / 0
MCQ / numerical, 2010–2026

Trend. Steady: 1.1 questions per paper in 2024–2026 against 1.1 in 2022–2023.

Questions per year



Counts are the questions we hold: 188 in 117 papers. No question in this chapter was found repeated across papers.

Most-asked topics in this chapter (2010–2026)

Concentration Terms	71
Stoichiometry	71
Mole & Molar Mass	31
Empirical & Molecular Formula	13
Laws of Chemical Combination	2

How often it comes up

Mole Concept & Stoichiometry provides the quantitative foundation for all of Class 11 physical chemistry. In the papers we hold for AP and TS EAPCET between 2022 and 2026, this unit contributed 85 questions across 77 papers. That gives an average frequency of 1.1 questions per paper, claiming 2.8% of all chemistry questions in that recent window. Taking the full historical record from 2010 to 2026 into account, the chapter supplied 188 questions across 149 papers, maintaining an average of 1.3 questions per paper and a 3.2% subject share. In the prior window from 2010 to 2021, our records reflect 103 questions in 72 papers (3.6% share). Over the last three exam years from 2024 to 2026, it provided 50 questions across 46 papers, registering a 2.7% share. Comparing the last three years to early papers, the chapter's share of the subject is down, while compared to the recent five-year window it is about the same.

State-level distributions indicate higher emphasis in Andhra Pradesh. Between 2022 and 2026, AP EAPCET papers in our set contributed 58 questions across 48 papers, with 40 papers containing questions (1.2 per paper, 3.0% share). TS EAPCET contributed 27 questions across 29 papers in our set, with 21 papers featuring questions (0.9 per paper, 2.3% share). Mole Concept & Stoichiometry has appeared every year since 2022, though across all 77 recent papers in our collection, sixteen papers omitted it, meaning it was not present in all 77 sittings. The chapter ranks 17th of 31 chemistry chapters by question share between 2022 and 2026. The busiest single sitting in our collection was 2020, which delivered 41 questions across 18 papers.

Most-asked topics

Questions distribute across five syllabus areas:

- **Stoichiometry**: This primary section brought 32 questions between 2022 and 2026, contributing to 71 questions across all years in our archive. It tests balanced chemical equations, limiting reagents, theoretical and percentage yields, equivalent weights, and volumetric titrations.
- **Concentration Terms**: Tying for top volume, this topic supplied 31 questions in the recent five-year span and 71 questions overall. Key concepts cover molarity, molality, mole fraction, normality, parts per million, and interconversions between mass percentage and molar concentration.
- **Mole & Molar Mass**: A group of 13 questions appeared in the recent five-year window, out of 31 questions in the full dataset. Questions evaluate Avogadro's number calculations, atom counting in molecular formulas, molar volume of gases at STP, and average atomic mass.
- **Empirical & Molecular Formula**: Examiners set 7 questions recently, out of 13 questions across all years. Topics include percentage composition, combustion analysis, empirical formula deduction, and molecular mass determination via vapour density.
- **Laws of Chemical Combination**: A focused pool of 2 questions appeared recently, matching the 2 questions across the entire archive. It tests the law of definite proportions, multiple proportions, and reciprocal proportions.

What the questions look like

Concentration term conversions form one of the most frequent problem types. A classic question provides the molality or mass percentage of an aqueous solution along with its density and asks for the resulting molarity or mole fraction of the solute. Another recurring format converts a very dilute contaminant concentration from molality into parts per million.

Stoichiometric calculations center on limiting reactants and gaseous reaction volumes. Students are given masses or STP volumes of two reacting species, such as hydrocarbon combustion or acid-base neutralization, and asked to find the residual unreacted mass or the volume of gas produced. Chemical formula questions present percentage compositions of elements in a complex compound, such as finding the exact number of magnesium atoms contained in a given sample of chlorophyll.

How to practise it

Start by mastering mole definition triangles: number of moles is n = mass / molar mass = N_particles / N_Avogadro = V_gas_STP / twenty-two point four litres. To find the number of individual atoms of a specific element inside a compound, multiply the moles of compound by the element's stoichiometric subscript and Avogadro's constant.

Next, study solution concentration definitions thoroughly. Molarity M = moles of solute / volume of solution in litres. Molality m = moles of solute / mass of solvent in kilograms. Notice that molality is temperature-independent because mass does not expand with heat, whereas molarity changes with temperature. Interconvert molality m and mole fraction x_solute using m = (one thousand x_solute) / [x_solvent M_solvent]. Remember that parts per million by mass is ppm = (mass of solute / total mass of solution) × ten raised to the sixth power.

Finally, master limiting reagent analysis. Always write a balanced chemical reaction first. Divide the available moles of each reactant by its stoichiometric coefficient: the reactant with the lowest ratio is strictly the limiting reagent and governs the theoretical yield of all products.

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Q1 AP EAPCET 2026 · 18 May · Shift 2 MCQ

Observe the following unbalanced equation

$$a\mathrm{S_8} + b\,\mathrm{OH^-}(aq) \rightarrow c\mathrm{S^{2-}}(aq) + d\mathrm{S_2O_3^{2-}}(aq) + e\mathrm{H_2O}(l)$$

In the balanced equation, the ratio of c and d is

(A) $1:2$
(B) $2:1$
(C) $1:3$
(D) $3:1$

Answer: (B) $2:1$ · The council's preliminary key

Q2 AP EAPCET 2026 · 15 May · Shift 1 MCQ

White phosphorus reacts with aqueous NaOH to form $\mathrm{PH_3}(g)$ and sodium hypophosphite. When 6.2g of white phosphorus reacted with 500 mL of xM NaOH solution, the concentration of sodium hypophosphite in the resultant solution was 0.3 mol $\mathrm{L^{-1}}$. What are x (in M) and weight (in g) of $\mathrm{PH_3}$ formed respectively?

(P = 31 u ; H = 1 u; O = 16 u)

(A) 0.6 , 1.7
(B) 0.3 , 3.4
(C) 0.3 , 1.7
(D) 0.6 , 3.4

Answer: (C) 0.3 , 1.7 · The council's preliminary key

Q3 AP EAPCET 2026 · 15 May · Shift 2 MCQ

If the molar masses of $\mathrm{Na_2S_2O_3}$ and $\mathrm{I_2}$ are M_1 and M_2 respectively, then the equivalent weights of $\mathrm{Na_2S_2O_3}$ and $\mathrm{I_2}$ in the following reaction are respectively

$$2\,\mathrm{Na_2S_2O_3} + \mathrm{I_2} \rightarrow 2\,\mathrm{NaI} + \mathrm{Na_2S_4O_6}$$

(A) M_1, M_2
(B) $M_1, \dfrac{M_2}{2}$
(C) $2M_1, M_2$
(D) $\dfrac{M_1}{2}, M_2$

Answer: (B) $M_1, \dfrac{M_2}{2}$ · The council's preliminary key

Q4 AP EAPCET 2026 · 14 May · Shift 1 MCQ

5.4 g of a metal (M) reacts with chlorine to form 26.7 g of metal chloride. What is the weight (in g) of M that reacts with 48 g of oxygen?

(A) 67.5
(B) 40.5
(C) 54
(D) 27

Answer: (C) 54 · The council's preliminary key

Q5 AP EAPCET 2026 · 14 May · Shift 2 MCQ

The number of significant figures present in 0.010200×10^3 is

(A) 7
(B) 5
(C) 6
(D) 10

Answer: (B) 5 · The council's preliminary key

Q6 AP EAPCET 2026 · 13 May · Shift 1 MCQ

White phosphorous reacts with aqueous NaOH solution to form $\mathrm{PH_3(g)}$ and aqueous sodium hypophosphite. 124 g of white phosphorous reacts completely with 1 L of x M NaOH to form three moles of sodium hypophosphite. What is the volume (in L) of x M NaOH that completely reacts with 128 g of rhombic sulphur to form aqueous sulphide, water and aqueous thiosulphate? (P= 31 u; S= 32 u)

(A) 2
(B) 0.5
(C) 1
(D) 4

Answer: (A) 2 · The council's preliminary key

Q7 AP EAPCET 2026 · 13 May · Shift 2 MCQ

The mole fraction of NaOH in aqueous NaOH solution is 0.02. What is the volume (in mL) of this solution that reacts completely with 1L of 0.5 M HCl solution?
(density of water = 1 g $\mathrm{mL^{-1}}$)

(A) 220.5
(B) 661.5
(C) 441.3
(D) 882.6

Answer: (C) 441.3 · The council's preliminary key

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Q8 AP EAPCET 2026 · 12 May · Shift 1 MCQ

The mole fraction of CH_3OH in an aqueous solution is 0.02. What is the molality of this solution?

(A) $4.52\ m$
(B) $3.39\ m$
(C) $2.26\ m$
(D) $1.13\ m$

Answer: (D) $1.13\ m$ · The council's preliminary key

Q9 AP EAPCET 2026 · 12 May · Shift 2 MCQ

Chlorophyll contains 2.4% of magnesium. The number of magnesium atoms present in 2.0 g of chlorophyll is
(N $= 6 \times 10^{23}\ mol^{-1}$, At.wt of Mg = 24 u)

(A) 1.8×10^{21}
(B) 2.4×10^{21}
(C) 1.2×10^{21}
(D) 3.6×10^{21}

Answer: (C) 1.2×10^{21} · The council's preliminary key

Q10 AP EAPCET 2026 · 12 May · Shift 2 MCQ

The molar mass of mustard gas is 159 g mol^{-1}. The percentage by mass of sulphur and chlorine in it are respectively
(Atomic weight: Cl=35.5 u, S=32 u)

(A) 20.12, 44.65
(B) 44.65, 20.12
(C) 40, 24.65
(D) 24.65, 40

Answer: (A) 20.12, 44.65 · The council's preliminary key

Q11 TS EAPCET 2026 · 11 May · Shift 1 MCQ

An organic compound on analysis is found to have 10.06% carbon, 0.84% hydrogen and 89.10% chlorine by weight. The simplest whole number ratio of C, H and Cl is

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(A) 1:2:3
(B) 1:1:3
(C) 1:2:2
(D) 1:3:1

Answer: (B) 1:1:3 · The council's preliminary key

Q12 TS EAPCET 2026 · 10 May · Shift 1 MCQ

Consider the two redox reactions, I and II

I. $2Na_2S_2O_3 + I_2 \rightarrow Na_2S_4O_6 + 2NaI$

II. $2KMnO_4 + 10FeSO_4 + 3H_2SO_4 \rightarrow 2MnSO_4 + 5Fe_2(SO_4)_3 + 3H_2O$

The ratio of equivalent weights of $KMnO_4$ and $Na_2S_2O_3$ is

(K = 39u; Mn = 55u; O = 16u; Na = 23u; S = 32u)

(A) $1:1$
(B) $2:1$
(C) $1:5$
(D) $5:1$

Answer: (C) $1:5$ · The council's preliminary key

Q13 TS EAPCET 2026 · 9 May · Shift 2 MCQ

A water sample is contaminated with compound X (molar mass $= 120\,g\,mol^{-1}$). Its molality is $10^{-4}\,m$. What is its concentration in ppm?

(A) 120
(B) 1200
(C) 12
(D) 12×10^3

Answer: (C) 12 · The council's preliminary key

Q14 AP EAPCET 2025 · 27 May · Shift 1 MCQ

Identify the correct statements about the following stoichiometric equation.

(only)

$$aP_4 + b\,^-OH + cH_2O \longrightarrow dPH_3 + eH_2PO_2^-$$

I. $a + b + c = 5$

II. $b + c - e = 3$

III. The oxidation state of P in $H_2PO_2^-$ is +1.

(A) I, II, III
(B) I, II only
(C) I, III only
(D) II, III only

Answer: (D) II, III only · The council's preliminary key

Q15 AP EAPCET 2025 · 27 May · Shift 1 MCQ

A solution is prepared by adding 124 g of ethylene glycol (molar mass = 62 g mol^{-1}) to x g of water to get 10 m solution. What is the value of x (in g) ?

(A) 100
(B) 400
(C) 800
(D) 200

Answer: (D) 200 · The council's preliminary key

Q16 AP EAPCET 2025 · 26 May · Shift 2 MCQ

The mass of a mixture containing NaCl and NaBr is 4.0 g. If Na is 30% of the total mixture, the composition of NaCl in the mixture is

(Na = 23 u, Cl = 35.5 u, Br = 80 u)

(A) 48%
(B) 55%
(C) 45%
(D) 52%

Answer: (C) 45% · The council's preliminary key

Q17 AP EAPCET 2025 · 26 May · Shift 2 MCQ

What is the approximate molality of 10% (w/w) aqueous glucose solution ?

(Molar mass of glucose = $180\ \mathrm{g\ mol}^{-1}$)

(A) 0.31 m
(B) 0.62 m
(C) 0.93 m
(D) 1.24 m

Answer: (B) 0.62 m · The council's preliminary key

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Q18 AP EAPCET 2025 · 24 May · Shift 1 MCQ

Two acids A and B are titrated separately. 25 mL of 0.5 M Na_2CO_3 solution requires 10 mL of A and 40 mL of B for complete neutralisation. The volume (in L) of A and B required to produce 1 L of 1 N acid solution respectively are

(A) 0.2, 0.8
(B) 0.8, 0.2
(C) 0.3, 0.7
(D) 0.7, 0.3

Answer: (A) 0.2, 0.8 · The council's preliminary key

Q19 AP EAPCET 2025 · 23 May · Shift 2 MCQ

An ideal gas mixture of C_2H_6 and C_2H_4 occupies a volume of 28 L at 1 atm and 273 K. This mixture reacts completely with 128 g of O_2 to produce CO_2 and $H_2O(l)$. What is the mole fraction of C_2H_4 in the mixture ?

(A) 0.4
(B) 0.8
(C) 0.5
(D) 0.6

Answer: (D) 0.6 · The council's preliminary key

Q20 AP EAPCET 2025 · 23 May · Shift 2 MCQ

Complete combustion of ethane gives only gaseous products. In a closed vessel, 15 g of ethane and 112 g of O_2 were allowed to completely react. What is the total number of moles of gaseous substances present in the vessel at the end of the reaction ?

(A) 4.25
(B) 2.5
(C) 1.75
(D) 8.50

Answer: (A) 4.25 · The council's preliminary key

Q21 AP EAPCET 2025 · 23 May · Shift 2 MCQ

In aqueous glucose solution, the mole fraction of water is 40 times to mole fraction of glucose. What is the weight percentage (w/w) of glucose in the solution ?

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(A) 40
(B) 30
(C) 20
(D) 10

Answer: (C) 20 · The council's preliminary key

Q22 AP EAPCET 2025 · 22 May · Shift 1 MCQ

1.84 g of a mixture of $CaCO_3$ and $MgCO_3$ is strongly heated to get a residue of 0.96 g. The percentage of $CaCO_3$ in the mixture is

(A) 50.34
(B) 49.66
(C) 54.34
(D) 45.66

Answer: (C) 54.34 · The council's preliminary key

Q23 AP EAPCET 2025 · 22 May · Shift 1 MCQ

The mole fractions of glucose and water in aqueous glucose solution are 0.0244 and 0.9756 respectively. What is the weight percentage (w/w) of glucose in this solution ?

(A) 40
(B) 25
(C) 20
(D) 10

Answer: (C) 20 · The council's preliminary key

Q24 AP EAPCET 2025 · 22 May · Shift 2 MCQ

Consider the following

A) 0.0025 B) 500.0 C) 2.0034

Number of significant figures in A, B and C respectively, are

(A) 5, 4, 4
(B) 2, 4, 2
(C) 4, 3, 2
(D) 2, 4, 5

Answer: (D) 2, 4, 5 · The council's preliminary key

Q25 AP EAPCET 2025 · 21 May · Shift 1 MCQ

Observe the following

I) 0.0063 II) 132.00 III) 1004

The number of significant figures in I, II and III is respectively

(A) 4, 3, 5
(B) 4, 5, 4
(C) 4, 3, 4
(D) 2, 5, 4

Answer: (D) 2, 5, 4 · The council's preliminary key

Q26 AP EAPCET 2025 · 21 May · Shift 1 MCQ

248 g of ethylene glycol ($C_2H_6O_2$) is added to 200 g of water to prepare antifreeze. What is the molality of resultant solution ?

(C = 12 u; H = 1 u; O = 16 u)

(A) 5 m
(B) 10 m
(C) 20 m
(D) 40 m

Answer: (C) 20 m · The council's preliminary key

Q27 AP EAPCET 2025 · 21 May · Shift 2 MCQ

209 g of an element reacts with chlorine to form 315.5 g of its chloride. What is the weight (in g) of oxygen that reacts with 418 g of same element ?

($Cl = 35.5$ u; $O = 16$ u)

(A) 24
(B) 48
(C) 96
(D) 36

Answer: (B) 48 · The council's preliminary key

Q28 TS EAPCET 2025 · 4 May · Shift 1 MCQ

1 mL of "x volume" H_2O_2 solution on heating gives 20 mL of oxygen gas at STP. The (w/v) % corresponding to "x volume" of H_2O_2 is

(A) 3.03
(B) 6.06
(C) 9.09
(D) 30.3

Answer: (B) 6.06 · The council's preliminary key

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Q29 TS EAPCET 2025 · 4 May · Shift 2 MCQ

100 mL of 0.05 M Cu^{2+} aqueous solution is added to 1 L of 0.1 M KI solution. The number of moles of I_2 and Cu_2I_2 formed are respectively

(A) $2.5 \times 10^{-3}, 5 \times 10^{-3}$
(B) $5 \times 10^{-3}, 5 \times 10^{-3}$
(C) $5 \times 10^{-3}, 2.5 \times 10^{-3}$
(D) $2.5 \times 10^{-3}, 2.5 \times 10^{-3}$

Answer: (D) $2.5 \times 10^{-3}, 2.5 \times 10^{-3}$ · The council's preliminary key

Q30 TS EAPCET 2025 · 4 May · Shift 2 MCQ

A solid mixture weighing 5 g contains equal number of moles of Na_2CO_3 and $NaHCO_3$. This solid mixture was dissolved in 1 L of water. What is the volume (in mL) of 0.1 M HCl required to completely react with this 1 L mixture solution?

(A) 157.8
(B) 789.0
(C) 1578.0
(D) 946.8

Answer: (B) 789.0 · The council's preliminary key

Q31 TS EAPCET 2025 · 3 May · Shift 1 MCQ

4.0 g of a mixture containing Na_2CO_3 and $NaHCO_3$ is heated to 673K. Loss in mass of the mixture is found to be 0.62g. The percentage of sodium carbonate in the mixture is

(A) 42
(B) 58
(C) 48
(D) 52

Answer: (B) 58 · The council's preliminary key

Q32 TS EAPCET 2025 · 2 May · Shift 1 MCQ

Which of the following solution has highest amount of solute?

(A) 1.0 L of 0.25 M Na_2CO_3 (106 u)
(B) 0.25 L of 0.2 M Na_2SO_4 (142 u)
(C) 0.5 L of 1.0 M $KMnO_4$ (158 u)
(D) 0.75 L of 0.5 M $(NH_2)_2CO$ (60 u)

Answer: (C) 0.5 L of 1.0 M $KMnO_4$ (158 u) · The council's preliminary key

Q33 AP EAPCET 2024 · 22 May · Shift 1 MCQ

At STP, a closed vessel contains 1 mole each of He and CH_4. Through a small hole, 2L of He and 1L of CH_4 was escaped from vessel in 't' minutes. What are the mole fractions of He and CH_4 respectively remaining in the vessel? (Assume He and CH_4 as ideal gases. At STP one mole of an ideal gas occupies 22.4 L of volume)

(A) 0.512, 0.488
(B) 0.5, 0.5
(C) 0.329, 0.671
(D) 0.488, 0.512

Answer: (D) 0.488, 0.512 · The council's preliminary key

Q34 AP EAPCET 2024 · 22 May · Shift 1 MCQ

10 g of a metal (M) reacts with oxygen to form 11.6 g of oxide. What is the equivalent weight of M?

(A) 50 g
(B) 0.02
(C) 0.02 g
(D) 50

Options (4) or (1) were accepted. More than one answer was accepted. · The council's preliminary key

Q35 AP EAPCET 2024 · 22 May · Shift 1 MCQ

Which of the following when added to 20 mL of a 0.01 M solution of HCl would decrease its pH?

(A) 20 mL of 0.02 M HCl
(B) 20 mL of 0.005 M HCl
(C) 20 mL of 0.01 M HCl
(D) 40 mL of 0.005 M HCl

Answer: (A) 20 mL of 0.02 M HCl · The council's preliminary key

Q36 AP EAPCET 2024 · 21 May · Shift 1 MCQ

0.1 mole of potassium permanganate was heated at 300 °C. What is the weight (in g) of the residue?

(Mn = 55 u; K = 39 u; O = 16 u)

(A) 14.2
(B) 1.6
(C) 15.8
(D) 7.1

Answer: (A) 14.2 · The council's preliminary key

Q37 AP EAPCET 2024 · 21 May · Shift 1 MCQ

100 mL of $\frac{M}{10}$ $Ca(NO_3)_2$ and 200 mL of $\frac{M}{10}$ KNO_3 solutions are mixed. What is the normality of resulted solution with respect to NO_3^- ?

(A) 0.1 N
(B) 0.2 N
(C) 0.13 N
(D) 0.066 N

Answer: (C) 0.13 N · The council's preliminary key

Q38 AP EAPCET 2024 · 21 May · Shift 2 MCQ

A flask contains 98 mg of H_2SO_4. If 3.01×10^{20} molecules of H_2SO_4 are removed from the flask, the number of moles of H_2SO_4 remained in flask is ($N = 6.02 \times 10^{23}$)

(A) 1×10^{-4}
(B) 5×10^{-4}
(C) 1.66×10^{-3}
(D) 9.95×10^{-3}

Answer: (B) 5×10^{-4} · The council's preliminary key

Q39 AP EAPCET 2024 · 20 May · Shift 1 MCQ

The density of nitric acid solution is $1.5\ g\ mL^{-1}$. Its weight percentage is 68. What is the approximate concentration (in $mol\ L^{-1}$) of nitric acid? (N = 14 u; O = 16 u; H = 1 u)

(A) 14.2
(B) 11.6
(C) 18.2
(D) 16.2

Answer: (D) 16.2 · The council's preliminary key

Q40 AP EAPCET 2024 · 20 May · Shift 2 MCQ

At STP 'x' g of a metal hydrogen carbonate ($MHCO_3$) (molar mass $84\ g\ mol^{-1}$) on heating gives CO_2, which can completely react with 0.2 moles of MOH (molar mass $40\ g\ mol^{-1}$) to give $MHCO_3$. The value of 'x' is

(A) 67.2
(B) 33.6
(C) 11.2
(D) 22.4

Answer: (B) 33.6 · The council's preliminary key

Q41 AP EAPCET 2024 · 20 May · Shift 2 MCQ

The mass % of urea solution is 6. The total weight of the solution is 1000 g. What is its concentration in mol L^{-1}? (density of water = 1.0 g mL^{-1})
(C = 12u: N = 14 u: O = 16 u, H = 1u)

(A) 1.5
(B) 1.064
(C) 1.12
(D) 0.80

Answer: (B) 1.064 · The council's preliminary key

Q42 AP EAPCET 2024 · 19 May · Shift 2 MCQ

200 g of 20% w/w urea solution is mixed with 400 g of 40% w/w urea solution. What is the weight percentage (w/w %) of resultant solution?

(A) 30.33
(B) 33.33
(C) 36.33
(D) 28.33

Answer: (B) 33.33 · The council's preliminary key

Q43 AP EAPCET 2024 · 18 May · Shift 1 MCQ

A hydrocarbon containing C and H has 92.3% C. When 39 g of hydrocarbon was completely burnt in O_2, x moles of water and y moles of CO_2 were formed. x moles of water is sufficient to liberate 0.75 moles of H_2 with Na metal. What is the weight (in g) of oxygen consumed?

(C = 12 u: H = 1 u)

(A) 120
(B) 240
(C) 360
(D) 480

Answer: (A) 120 · The council's preliminary key

Q44 AP EAPCET 2024 · 18 May · Shift 1 MCQ

The concentration of 1L of CaCO_3 solution is 1000 ppm. What is its concentration in $\mathrm{mol\ L}^{-1}$?

(Ca = 40 u, O = 16 u, C = 12 u)

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(A) 10^{-3}
(B) 10^{-1}
(C) 10^{-4}
(D) 10^{-2}

Answer: (D) 10^{-2} · The council's preliminary key

Q45 TS EAPCET 2024 · 11 May · Shift 1 MCQ

0.43 g of a metal of valence 2 was dissolved in 50 mL of 0.5M H_2SO_4 solution. The unreacted acid required 14.2 mL of 1M NaOH solution for neutralization. The atomic weight of the metal is

(A) 56u
(B) 40u
(C) 27u
(D) 24u

Answer: (D) 24u · The council's preliminary key

Q46 TS EAPCET 2024 · 10 May · Shift 1 MCQ

Match the following

List – I (Substance)	List – II (Equivalent weight)
A Na_2CO_3	I $\frac{M}{5}$
B $KMnO_4 \mid H^+$	II $\frac{M}{3}$
C $K_2Cr_2O_7 \mid H^+$	III $\frac{M}{2}$
D $KMnO_4 \mid H_2O$	IV $\frac{M}{6}$

(M = Formula weight)

The correct answer is

(A) A – III; B – I; C – IV; D – II
(B) A – III; B – IV; C – I; D – II
(C) A – II; B – III; C – IV; D – I
(D) A – IV; B – II; C – III; D – I

Answer: (A) A – III; B – I; C – IV; D – II · The council's preliminary key

Q47 TS EAPCET 2024 · 10 May · Shift 1 MCQ

The normality of 20 volume solution of hydrogen peroxide is

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(A) 0.892 N
(B) 1.785 N
(C) 2.678 N
(D) 3.570 N

Answer: (D) 3.570 N · The council's preliminary key

Q48 TS EAPCET 2024 · 9 May · Shift 1 MCQ

12 g of an element reacts with 32 g of oxygen. What is the equivalent weight of the element?

(A) 12
(B) 6
(C) 4
(D) 3

Answer: (D) 3 · The council's preliminary key

Q49 TS EAPCET 2024 · 9 May · Shift 2 MCQ

If the density of a mixture of nitrogen and oxygen gases at 400 K and 1 atm pressure is 0.920 $\mathrm{gL^{-1}}$, what is the mole fraction of nitrogen in the mixture?
($\mathrm{R} = 0.082\ \mathrm{L\ atm\ mol^{-1}K^{-1}}$; assume ideal gas behavior for oxygen and nitrogen)

(A) 0.456
(B) 0.554
(C) 0.432
(D) 0.568

Answer: (A) 0.456 · The council's preliminary key

Q50 TS EAPCET 2024 · 9 May · Shift 2 MCQ

The incorrect rule regarding the determination of significant figures is

(A) Zeros preceeding to first non zero digit are not significant
(B) Zeros between two non-zero digits are not significant
(C) Zeros at the right end of the number are significant if they are on the right side of decimal point.
(D) All non-zero digits are significant

Answer: (B) Zeros between two non-zero digits are not significant · The council's preliminary key

Q51 AP EAPCET 2023 · 18 May · Shift 1 MCQ

The molarity of the solution when 4.9 g of $\mathrm{H_2SO_4}$ dissolved in 250 mL of solution is

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(A) 0.1
(B) 0.2
(C) 0.3
(D) 0.4

Answer: (B) 0.2 · The council's preliminary key

Q52 AP EAPCET 2023 · 18 May · Shift 2 MCQ

x g of methane was burnt completely in the presence of oxygen. The liberated gases were passed into a solution containing 370 g of $\mathrm{Ca(OH)_2}$. The weight of white precipitate obtained was 500 g. What is the value of x (in g)?

(Given : C = 12; H = 1; Ca = 40; O = 16 u)

(A) 16
(B) 80
(C) 160
(D) 120

Answer: (B) 80 · The council's preliminary key

Q53 AP EAPCET 2023 · 17 May · Shift 1 MCQ

The molality of solution, when 18 g of glucose is added to the 18 g of $\mathrm{H_2O}$ is

(A) 0.55 m
(B) 2.55 m
(C) 5.55 m
(D) 55.5 m

Answer: (C) 5.55 m · The council's preliminary key

Q54 AP EAPCET 2023 · 17 May · Shift 2 MCQ

Observe the following reaction

$$\mathrm{a\,P_4(s) + b\,^{-}OH(aq) + H_2O(l) \rightarrow c\,PH_3(g) + d\,H_2PO_2^{-}(aq)}$$

a, b, c and d are respectively

(A) 1, 3, 3, 1
(B) 1, 3, 2, 3
(C) 3, 1, 3, 1
(D) 1,3, 1,3

Answer: (D) 1,3, 1,3 · The council's preliminary key

Q55 AP EAPCET 2023 · 16 May · Shift 1 MCQ

The weight percentage of C and H in a hydrocarbon is in the ratio of 4:1. What is its empirical formula?

(A) CH
(B) CH_2
(C) CH_3
(D) CH_4

Answer: (C) CH_3 · The council's preliminary key

Q56 AP EAPCET 2023 · 15 May · Shift 1 MCQ

20 mL of 0.1 M HCl is added to the 30 mL of 0.1 M $NaOH$. To this solution extra 50 mL of water was added. What is the molarity of the final solution formed?

(A) 0.1 M
(B) 0.01 M
(C) 0.5 M
(D) 0.05 M

Answer: (B) 0.01 M · The council's preliminary key

Q57 AP EAPCET 2023 · 15 May · Shift 1 MCQ

The molarity of one molal glucose solution having density of 1.2 g/mL is

(A) 0.101 M
(B) 1.01 M
(C) 2.01 M
(D) 0.001 M

Answer: (B) 1.01 M · The council's preliminary key

Q58 AP EAPCET 2023 · 15 May · Shift 2 MCQ

6 g of urea (molar mass = 60 g mol^{-1}) and 9 g of glucose (molar mass = 180 g mol^{-1}) were dissolved in 35 g of water. The mass percent of urea and glucose is respectively

(A) 18, 12
(B) 6, 9
(C) 12, 18
(D) 9, 6

Answer: (C) 12, 18 · The council's preliminary key

Q59 TS EAMCET 2023 · 14 May · Shift 1 MCQ

Which one of the following has the same number of atoms as are in 6g of H_2O?

(A) 0.4 g He
(B) 22 g CO_2
(C) 1 g H_2
(D) 12 g CO

Answer: (C) 1 g H_2 · The council's preliminary key

Q60 TS EAMCET 2023 · 13 May · Shift 1 MCQ

The masses of carbondioxide and water (in g) respectively formed during complete combustion of 10 g of glucose at STP are

(A) 14.66, 18.0
(B) 14.66, 6.0
(C) 12.0, 6.0
(D) 24.0, 12.0

Answer: (B) 14.66, 6.0 · The council's preliminary key

Q61 TS EAMCET 2023 · 13 May · Shift 2 MCQ

The sum of three values 12.0, 19.034 and 2.0143 is equal to X. The number of significant figures in X is

(A) 2
(B) 5
(C) 4
(D) 3

Answer: (D) 3 · The council's preliminary key

Q62 TS EAMCET 2023 · 12 May · Shift 1 MCQ

The equivalent weight of which of the following is maximum?

(Given: atomic weights Na = 23, Mn = 55, Cr = 52, K = 19, O = 16, C = 12)

(A) $Na_2C_2O_4 \cdot 2H_2O$
(B) $KMnO_4 \mid H^+$
(C) $KMnO_4 \mid H_2O$
(D) $K_2Cr_2O_7 \mid H^+$

Answer: (A) $Na_2C_2O_4 \cdot 2H_2O$ · The council's preliminary key

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Q63 TS EAMCET 2022 · 20 Jul · Shift 1 MCQ

Magnetite can be reduced with CO to yield iron metal and carbon dioxide. Calculate the mass of magnetite (in kg) needed to obtain 4 kg of iron if the process is 80 % efficient. [Atomic weight of Fe and O are 56 g and 16 g, respectively]

(A) 15.5
(B) 5.5
(C) 17.0
(D) 6.9

Answer: (D) 6.9 · The council's preliminary key

Q64 TS EAMCET 2022 · 20 Jul · Shift 2 MCQ

Round the number 234555359 to 3 significant figures.

(A) 234000000
(B) 234000
(C) 235000000
(D) 234500000

Answer: (C) 235000000 · The council's preliminary key

Q65 TS EAMCET 2022 · 20 Jul · Shift 2 MCQ

If 2 g of NaOH is dissolved to make 200 ml solution at $25\ ^{\circ}$C, the molarity (M) at $90\ ^{\circ}$C is

(A) $M < 0.25$
(B) $0.5 > M > 0.25$
(C) $M = 0.25$
(D) $0.5 < M < 1.0$

Answer: (A) $M < 0.25$ · The council's preliminary key

Q66 TS EAMCET 2022 · 19 Jul · Shift 1 MCQ

The average molecular weight of the air which has 21 % of O_2 and 79 % of N_2, is

(A) 44.8
(B) 100
(C) 14.4
(D) 28.8

Answer: (D) 28.8 · The council's preliminary key

Q67 TS EAMCET 2022 · 19 Jul · Shift 1 MCQ

The number of significant figures in 2.0400 is

(A) 3
(B) 2
(C) 4
(D) 5

Answer: (D) 5 · The council's preliminary key

Q68 TS EAMCET 2022 · 19 Jul · Shift 1 MCQ

Identify the values of a, b, c, d and e for the following unbalanced reaction
$\mathrm{a\,KNO_3 + 5C_{12}H_{22}O_{11} \longrightarrow b\,N_2 + c\,CO_2 + d\,H_2O + e\,K_2CO_3}$

(A) a=10, b=12, c=18, d=55, e=12
(B) a=6, b=8, c=6, d=11, e=12
(C) a=48, b=36, c=6, d=8, e=12
(D) a=48, b=24, c=36, d=55, e=24

Answer: (D) a=48, b=24, c=36, d=55, e=24 · The council's preliminary key

Q69 TS EAMCET 2022 · 19 Jul · Shift 2 MCQ

Combustion of 10 ml of a gaseous hydrocarbon gives 40 ml of CO_2 and 50 ml of water vapour under the same conditions. The molecular formula of the hydrocarbon is

(A) C_4H_6
(B) C_4H_8
(C) C_3H_4
(D) C_4H_{10}

Answer: (D) C_4H_{10} · The council's preliminary key

Q70 TS EAMCET 2022 · 18 Jul · Shift 1 MCQ

The amount of 50 % (w/w) solution of hydrochloric acid required to react with 200 g of $CaCO_3$ would be

(A) 73 g
(B) 292 g
(C) 146 g
(D) 100 g

Answer: (B) 292 g · The council's preliminary key

Q71 TS EAMCET 2022 · 18 Jul · Shift 2 MCQ

Calculate the number of moles of NaOH required to completely neutralise 100 g of 118% oleum

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(A) 2.4
(B) 1.2
(C) 4.8
(D) 8.4

Answer: (A) 2.4 · The council's preliminary key

Q72 AP EAPCET 2022 · 8 Jul · Shift 1 MCQ

Observe the following reaction
$I_2 + 10\ HNO_3 \rightarrow 2\ HIO_3 + 10\ NO_2 + 4\ H_2O$
The equivalent wt. of HNO_3 is
(molar mass of HNO_3 = M)

(A) M
(B) $\frac{M}{4}$
(C) $\frac{M}{2}$
(D) $\frac{M}{5}$

Answer: (A) M · The council's preliminary key

Q73 AP EAPCET 2022 · 8 Jul · Shift 2 MCQ

A car airbag is inflated by N_2 produced during rapid decomposition of NaN_3(s). What will be the pressure of the inflated airbag if 130 g of NaN_3 is used. The volume of airbag is 10 L (T = 300 K, R=0.082 L atm $K^{-1}\ mol^{-1}$)

(A) $7.38\ atm$
(B) $4.92\ atm$
(C) $3.0\ atm$
(D) $9.84\ atm$

Answer: (A) $7.38\ atm$ · The council's preliminary key

Q74 AP EAPCET 2022 · 8 Jul · Shift 2 MCQ

Assertion (A): Molality of solution increases with temperature.
Reason (R): Molality expression does not involve any volume term.

(A) Both A and R are correct, R is the correction explanation of A.
(B) Both A and R are correct, R is not the correction explanation of A.
(C) A is correct, R is not correct.
(D) A is not correct, R is correct.

Answer: (D) A is not correct, R is correct. · The council's preliminary key

Q75 AP EAPCET 2022 · 7 Jul · Shift 1 MCQ

A reaction gas mixture contains 50%, 30%, 20% of A, B and C by volume, respectively. The mixture undergoes the following reactions.

1. $\mathrm{A} + 2\mathrm{B} \longrightarrow \mathrm{P}_1$
2. $4\mathrm{P}_1 + 3\mathrm{C} \longrightarrow \mathrm{P}_2$

P_1 and P_2 are two products of the reactions. Choose the correct answer if the reaction completes.

(A) C will be completely exhausted.
(B) A will be completely exhausted.
(C) B will not be completely exhausted.
(D) P_1 will be completely exhausted.

Answer: (D) P_1 **will be completely exhausted.** · The council's preliminary key

Q76 AP EAPCET 2022 · 7 Jul · Shift 1 MCQ

The molality and molarity of a solution of a glucose in water which is labeled as 10% (w/w) are respectively (density of solution = $1.2\ \mathrm{g\,mL^{-1}}$)

(A) 0.57m, 0.517M
(B) 0.67m, 0.617M
(C) 0.617m, 0.67M
(D) 0.517m, 0.57M

Answer: (C) 0.617m, 0.67M · The council's preliminary key

Q77 AP EAPCET 2022 · 7 Jul · Shift 2 MCQ

3.1 g of a compound, 'X' (molar mass = $62\ \mathrm{g\,mol^{-1}}$) is dissolved in 19.5 g of other compound, Y (molar mass = $78\ \mathrm{g\,mol^{-1}}$). The ratio of mole fractions of X and Y in the solution is

(A) 1:5
(B) 5:1
(C) 4:1
(D) 1:4

Answer: (A) 1:5 · The council's preliminary key

Q78 AP EAPCET 2022 · 6 Jul · Shift 1 MCQ

If 50% of 1 M $\mathrm{Na_2SO_4}$ is dissociated in aqueous solution of density $1.2\ \mathrm{g\,mL^{-1}}$, what is the molality of $\mathrm{Na^+}$ ion in the solution?

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(A) 0.95
(B) 1.89
(C) 1.00
(D) 2.00

Answer: (A) 0.95 · The council's preliminary key

Q79 AP EAPCET 2022 · 6 Jul · Shift 1 MCQ

What is the atomic mass of Fe?
Given abundance of ^{54}Fe = 10%
^{56}Fe = 85%
^{57}Fe = 5%

(A) 55.65
(B) 55.75
(C) 55.85
(D) 55.95

Answer: (C) 55.85 · The council's preliminary key

Q80 AP EAPCET 2022 · 6 Jul · Shift 2 MCQ

Equivalent weights of $KMnO_4$ and $K_2Cr_2O_7$ in acidic medium are respectively.
(Molecular weight of $KMnO_4$ = M_A and Molecular weight of $K_2Cr_2O_7$ = M_B)

(A) $\frac{M_A}{3}, \frac{M_B}{6}$
(B) $\frac{M_A}{6}, \frac{M_B}{5}$
(C) $\frac{M_A}{3}, \frac{M_B}{5}$
(D) $\frac{M_A}{5}, \frac{M_B}{6}$

Answer: (D) $\frac{M_A}{5}, \frac{M_B}{6}$ · The council's preliminary key

Q81 AP EAPCET 2022 · 6 Jul · Shift 2 MCQ

The mass % of carbon in $C_{57}H_{110}O_6$ is

(A) 57.95
(B) 62.35
(C) 73.45
(D) 76.85

Answer: (D) 76.85 · The council's preliminary key

Q82 AP EAPCET 2022 · 6 Jul · Shift 2 MCQ

The mass of hydrogen (in grams) present in 1.0 L of pure water of density $1.0\ \mathrm{g\,cm^{-3}}$ is

(A) 1.11×10^2
(B) 5.55×10^2
(C) 2.22×10^2
(D) 3.33×10^2

Answer: (A) 1.11×10^2 · The council's preliminary key

Q83 AP EAPCET 2022 · 5 Jul · Shift 1 MCQ

50 g of a substance is dissolved in 1 kg of water at $+90^0$C. The temperature is reduced to $+10^0$C. The density is increased from 1.1 to 1.15 g $\mathrm{cc^{-1}}$. What is the % change of molarity of the solution?

(A) 10
(B) 4.5
(C) 5
(D) 7.3

Answer: (B) 4.5 · The council's preliminary key

Q84 AP EAPCET 2022 · 4 Jul · Shift 1 MCQ

The statement related to law of definite proportions is

(A) The ratio of oxygen in $\mathrm{H_2O}$ and $\mathrm{H_2O_2}$ with respect to fixed mass of Hydrogen atom is a whole number
(B) % of oxygen in $\mathrm{H_2O}$ is constant irrespective of the source
(C) Equal volume of all gases at the same temperature and pressure should contain equal number of molecules
(D) Matter can neither be created nor destroyed.

Answer: (B) % of oxygen in $\mathrm{H_2O}$ is constant irrespective of the source · The council's preliminary key

Q85 AP EAPCET 2022 · 4 Jul · Shift 2 MCQ

How many grams of Mg is required to completely reduce 100 ml, 0.1 M $\mathrm{NO_3^-}$ solution using the following reaction

$\mathrm{NO_3^- + Mg \longrightarrow Mg^{2+} + NH_3}$

(A) 0.96
(B) 0.62
(C) 0.24
(D) 0.75

Answer: (A) 0.96 · The council's preliminary key

Q86 AP EAPCET 2021 · 5 Oct · Shift 1 MCQ

When a mixture of CO_2 and CO is passed over red-hot graphite, it is observed that 1 mole of the mixture changes to 39.2 L (at STP). Then find the mole fraction of CO_2 in the given mixture.

(A) 0.66
(B) 0.25
(C) 0.75
(D) 0.33

Answer: (C) 0.75 · The council's preliminary key

Q87 AP EAPCET 2021 · 25 Aug · Shift 1 MCQ

If the density of a 5 M solution of KCl is $1.26\ \mathrm{g\ ml^{-1}}$, then find the molality of the solution. (Molecular mass of $\mathrm{KCl} = 74.55\ \mathrm{g\ mol^{-1}}$)

(A) $0.74\ m$
(B) $1.26\ m$
(C) $7.45\ m$
(D) $3.38\ m$

Answer: (D) $3.38\ m$ · The council's preliminary key

Q88 AP EAPCET 2021 · 25 Aug · Shift 1 MCQ

Gastric juice contains about $3.0\ \mathrm{g}$ of HCl per liter. If a person produces about 2.6 liters of gastric juice per day, find the number of antacid tablets required to neutralize all the HCl produced. Consider each antacid tablet contains $400\ \mathrm{mg}$ of $\mathrm{Al(OH)_3}$. Given atomic masses: $\mathrm{Al} \to 27, \mathrm{O} \to 16, \mathrm{H} \to 1, \mathrm{Cl} \to 35.5$.

(A) 8
(B) 20
(C) 14
(D) 10

Answer: (C) 14 · The council's preliminary key

Q89 AP EAPCET 2021 · 25 Aug · Shift 2 MCQ

3.011×10^{22} atoms of an element weigh $1.15\ gm$. The atomic mass of the element is _____

(A) $10\ amu$
(B) $2.3\ amu$
(C) $35.5\ amu$
(D) $23\ amu$

Answer: (D) $23\ amu$ · The council's preliminary key

Q90 AP EAPCET 2021 · 25 Aug · Shift 2 MCQ

The mole-fraction of a solute in one molal ethanolic solution would be _____ (Given, molecular mass of ethanol = $46.07\,\mathrm{g.mol^{-1}}$)

(A) 0.21
(B) 0.52
(C) 0.044
(D) 0.75

Answer: (C) 0.044 · The council's preliminary key

Q91 AP EAPCET 2021 · 24 Aug · Shift 1 MCQ

In each molecule of carbon tetrachloride, the mass percent of carbon and chlorine respectively are _____ and _____

(A) 76.86 & 23.14
(B) 7.84 & 92.80
(C) 23.14 & 76.86
(D) 78.41 & 9.25

Answer: (B) 7.84 & 92.80 · The council's preliminary key

Q92 AP EAPCET 2021 · 24 Aug · Shift 2 MCQ

The equivalent weight of Fe in Fe_2O_3 is _____ (Atomic mass of $Fe = 56\ g\ mol^{-1}$)

(A) 56.0
(B) 18.6
(C) 28.0
(D) 14.0

Answer: (B) 18.6 · The council's preliminary key

Q93 AP EAPCET 2021 · 24 Aug · Shift 2 MCQ

Calculate the amount of hydrogen gas required in order to produce $100\ g$ of ammonia by the reaction of $N_{2(g)}$ and $H_{2(g)}$ gases.

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(A) $35.29\ g$
(B) $17.65\ g$
(C) $28.11\ g$
(D) $34\ g$

Answer: (B) $17.65\ g$ · The council's preliminary key

Q94 AP EAPCET 2021 · 23 Aug · Shift 1 MCQ

For formation of $3.40\ g$ of ammonia gas, what volumes of hydrogen gas and nitrogen gas, respectively, are required at NTP conditions?

(A) $2.24\ L$ & $2.24\ L$
(B) $2.24\ L$ & $1.24\ L$
(C) $6.72\ L$ & $2.24\ L$
(D) $6.72\ L$ & $1.12\ L$

Answer: (C) $6.72\ L$ & $2.24\ L$ · The council's preliminary key

Q95 AP EAPCET 2021 · 23 Aug · Shift 1 MCQ

If one atom of an element X weighs $6.643 \times 10^{-23}\ g$. Then find the number of moles of atoms in $50\ kg$ of element X.

(A) 500 moles
(B) 125 moles
(C) 1250 moles
(D) 50 moles

Answer: (C) 1250 moles · The council's preliminary key

Q96 AP EAPCET 2021 · 23 Aug · Shift 1 MCQ

What amount of conc.H_2SO_4 solution should be used to prepare $500\ ml$ of $0.5\ M\ H_2SO_4$? (The concentration of H_2SO_4 solution being used is 90% and molecular mass of $H_2SO_4 = 98.079\ g.mol^{-1}$)

(A) $22.06\ g$
(B) $24.52\ g$
(C) $11.03\ g$
(D) $27.24\ g$

Answer: (D) $27.24\ g$ · Checked by our team

Q97 AP EAPCET 2021 · 23 Aug · Shift 2 MCQ

If the mole fraction of ethanol in a solution of ethanol in water is 0.050, then find the molarity of the given solution.

EdLoop EAPCET

(A) 3.5 M
(B) 2.8 M
(C) 1.7 M
(D) 0.95 M

Answer: (B) 2.8 M · The council's preliminary key

Q98 AP EAPCET 2021 · 23 Aug · Shift 2 MCQ

The % $\left(\frac{w}{v}\right)$ of H_2O_2 in 1.5 N solution is _____

(A) 3.6
(B) 2.99
(C) 2.55
(D) 2.4

Answer: (C) 2.55 · The council's preliminary key

Q99 AP EAPCET 2021 · 20 Aug · Shift 1 MCQ

An alloy of metals X and Y weighs $12g$ & contains atoms X and Y in the ratio of $2:5$. The percentage of Metal X in the alloy is 20 by mass. If the atomic mass of X is 40, what is the atomic mass of metal Y.

(A) $64\ amu$
(B) $32\ amu$
(C) $60\ amu$
(D) $50\ amu$

Answer: (A) $64\ amu$ · The council's preliminary key

Q100 AP EAPCET 2021 · 20 Aug · Shift 1 MCQ

If $500\ ml$ of $CaCl_2$ solution contains 3.01×10^{22} chloride ions, molarity of the solution will be ___

(A) $0.05\ M$
(B) $0.01\ M$
(C) $0.1\ M$
(D) $0.02\ M$

Answer: (A) $0.05\ M$ · The council's preliminary key

Q101 AP EAPCET 2021 · 20 Aug · Shift 2 MCQ

If the volume of 15.9 g of carbon tetrachloride is 10 ml, calculate its density.

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(A) $31.8\ g.ml^{-1}$
(B) $1.59\ g.ml^{-1}$
(C) $0.159\ g.ml^{-1}$
(D) $15.9\ g.ml^{-1}$

Answer: (B) $1.59\ g.ml^{-1}$ · The council's preliminary key

Q102 AP EAPCET 2021 · 20 Aug · Shift 2 MCQ

0.63 g of Oxalic acid is dissolved in order to obtain 250 cm^3 of its solution. Find the normality of this solution. [Oxalic acid: $(COOH)_2.2H_2O$]

(A) $0.05\ N$
(B) $0.01\ N$
(C) $0.04\ N$
(D) $0.02\ N$

Answer: (C) $0.04\ N$ · The council's preliminary key

Q103 AP EAPCET 2021 · 20 Aug · Shift 2 MCQ

7.8 g of a compound having molecular formula C_6H_6, on reacting with $CH_3COCl/AlCl_3$ gives 8.4 g of a product which has molecular formula C_8H_8O. Calculate the percentage yield of the product C_8H_8O. (Given atomic weights of H, C and O respectively are 1, 12 and 16)

(A) 70 %
(B) 60 %
(C) 80 %
(D) 75 %

Answer: (A) 70 % · The council's preliminary key

Q104 AP EAPCET 2021 · 20 Aug · Shift 2 MCQ

The complete combustion of one mole of benzene produces _____ grams of carbon dioxide.

(A) 164
(B) 220
(C) 264
(D) 308

Answer: (C) 264 · The council's preliminary key

Q105 AP EAPCET 2021 · 19 Aug · Shift 1 MCQ

When 20 g of $CaCO_3$ is treated with 20 g of HCl, the mass of CO_2 formed would be _____

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(A) $10\ g$
(B) $8.8\ g$
(C) $22.2\ g$
(D) $20\ g$

Answer: (B) $8.8\ g$ · The council's preliminary key

Q106 AP EAPCET 2021 · 19 Aug · Shift 2 MCQ

If 0.2 moles of sulphuric acid is poured in to $250\ \mathrm{ml}$ of water, calculate the concentration of the solution?

(A) $0.8\ \mathrm{N}$
(B) $0.8\ \mathrm{M}$
(C) $8\ \mathrm{M}$
(D) $0.2\ \mathrm{N}$

Answer: (B) $0.8\ \mathrm{M}$ · The council's preliminary key

Q107 TS EAMCET 2021 · 6 Aug · Shift 1 MCQ

100 g of a mixture of NaOH and $\mathrm{Na_2SO_4}$ is neutralized by 100 ml of 0.5M $\mathrm{H_2SO_4}$. What is the amount of $\mathrm{Na_2SO_4}$ present in the mixture?

(A) 82 g
(B) 96 g
(C) 88 g
(D) 92 g

Answer: (B) 96 g · The council's preliminary key

Q108 TS EAMCET 2021 · 6 Aug · Shift 2 MCQ

$56\ \mathrm{g}$ of CaO has been mixed with $63\ \mathrm{g}$ of $\mathrm{HNO_3}$, the amount of $\mathrm{Ca(NO_3)_2}$ formed is

(A) $4\ \mathrm{g}$
(B) $8.28\ \mathrm{g}$
(C) $164\ \mathrm{g}$
(D) $82\ \mathrm{g}$

Answer: (D) $82\ \mathrm{g}$ · The council's preliminary key

Q109 TS EAMCET 2021 · 5 Aug · Shift 2 MCQ

An organic compound contains 60 % C; 4.48 % H and 35.5 % O. Its empirical formula is

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(A) $C_9H_8O_4$
(B) $C_5H_4O_2$
(C) $C_5H_4O_4$
(D) $C_9H_7O_6$

Answer: (A) $C_9H_8O_4$ · The council's preliminary key

Q110 TS EAMCET 2021 · 5 Aug · Shift 2 MCQ

The number of sodium ions present in 0.5 mole of sodium ferrocynide is?

(A) 2×10^{23}
(B) 0.5×10^{23}
(C) 12×10^{23}
(D) 4×10^{23}

Answer: (C) 12×10^{23} · The council's preliminary key

Q111 TS EAMCET 2021 · 4 Aug · Shift 1 MCQ

In the balanced equation of the following reaction, the ratio of a/b is a

$a\,CaCO_3 + b\,H_3PO_4 \rightarrow p\,Ca_3(PO_4)_2 + q\,CO_2 + r\,H_2O$

(A) 2/3
(B) 3/2
(C) 1/2
(D) 7/5

Answer: (B) 3/2 · The council's preliminary key

Q112 TS EAMCET 2021 · 4 Aug · Shift 1 MCQ

The number of grams of oxygen in 32.2 g of $Na_2SO_4.10H_2O$ is approximately

(A) 32.2 g
(B) 22.4 g
(C) 11.2 g
(D) 64.4 g

Answer: (B) 22.4 g · The council's preliminary key

Q113 TS EAMCET 2021 · 4 Aug · Shift 1 MCQ

If the density of a 2 M solution of ethylene glycol in water is 1.11 g/ml, the molality (in 'm') of the solution is approximately

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(A) 1.92
(B) 1.57
(C) 2.05
(D) 2.15

Answer: (C) 2.05 · The council's preliminary key

Q114 AP EAMCET 2020 · 7 Oct · Shift 1 MCQ

The mass of urea required to make 2.5 kg of 0.25 molal aqueous solution is _____

(A) 3.7 g
(B) 37 g
(C) 74 g
(D) 7.4 g

Answer: (B) 37 g · The council's preliminary key

Q115 AP EAMCET 2020 · 23 Sep · Shift 1 MCQ

Calculate the mass of $AgCl$ precipitated, when 25 ml of 35 % solution of $AgNO_3$ and 25 ml of 11.6 % solution of $NaCl$ are mixed is _____

(A) 7 g
(B) 17 g
(C) 20 g
(D) 15 g

Answer: (A) 7 g · The council's preliminary key

Q116 AP EAMCET 2020 · 23 Sep · Shift 1 MCQ

Calculate the mass percentage of 3 g of solute A dissolved in 18 g of water?

(A) 15.28 %
(B) 14.28 %
(C) 16.28 %
(D) 17.28 %

Answer: (B) 14.28 % · The council's preliminary key

Q117 AP EAMCET 2020 · 23 Sep · Shift 1 MCQ

Which of the following statements is true?
1) 200ml of 0.2M NaOH has same number of moles of solute as 1000 ml of 1M NaOH
2) 200ml of 1M NaOH has same number of moles as 1000 ml of 0.2M NaOH
3) 100ml of 0.2M NaOH has same number of moles as 1000 ml of 1M NaOH
4) 2000ml of 0.2M NaOH has same number of moles as 1000 ml of 1M NaOH

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(A) 1
(B) 2
(C) 3
(D) 4

Answer: (B) 2 · The council's preliminary key

Q118 AP EAMCET 2020 · 22 Sep · Shift 1 MCQ

What will be the molality of the solution containing 18.25g of HCl gas in 500g of water?

(A) $0.5\ m$
(B) $0.1\ m$
(C) $1\ m$
(D) $0.05\ m$

Answer: (C) $1\ m$ · The council's preliminary key

Q119 AP EAMCET 2020 · 22 Sep · Shift 1 MCQ

1g of a solute is added to 18 g of water. In this aqueous solution, what is the mass percent of the solute?

(A) $2\ \%$
(B) $5\ \%$
(C) $1\ \%$
(D) $10\ \%$

Answer: (B) $5\ \%$ · The council's preliminary key

Q120 AP EAMCET 2020 · 22 Sep · Shift 1 MCQ

The mass of one mole of a substance in grams is called _____

(A) Atomic mass
(B) Mole number
(C) Molar mass
(D) Mass number

Answer: (C) Molar mass · The council's preliminary key

Q121 AP EAMCET 2020 · 22 Sep · Shift 1 MCQ

Find the molarity of the 5 molal urea solution, whose density is 1.3 g/ml (given, molecular weight of urea is 60.06 g/mol)

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(A) $> 5\ M$
(B) $= 5\ M$
(C) $< 5\ M$
(D) Can't be predicted

Options (2) or (3) were accepted. More than one answer was accepted. · The council's preliminary key

Q122 AP EAMCET 2020 · 22 Sep · Shift 2 MCQ

Find the equivalent weight of MnO_4^- for acid medium reactions. (atomic weight of $Mn = 55$, atomic weight of $O = 16$)

(A) 118.93
(B) 23.78
(C) 64.00
(D) 54.93

Answer: (B) 23.78 · The council's preliminary key

Q123 AP EAMCET 2020 · 22 Sep · Shift 2 MCQ

The highest temperature among the following is

(A) 200 °F
(B) 278 K
(C) 105 °C
(D) 105 K

Answer: (C) 105 °C · The council's preliminary key

Q124 AP EAMCET 2020 · 22 Sep · Shift 2 MCQ

Which among the following is a unitless physical quantity?

(A) Molality
(B) Molarity
(C) Mole fraction
(D) Normality

Answer: (C) Mole fraction · The council's preliminary key

Q125 AP EAMCET 2020 · 22 Sep · Shift 2 MCQ

Calculate the amount of NO_2 required for producing 4g moles of HNO_3 as per the chemical reaction $3NO_2 + H_2O \rightarrow 2HNO_3 + NO$. Given, The gram molecular weights of di-nitrogen and di-oxygen gases are 28 g and 32 g respectively.

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(A) 276 g
(B) 274 g
(C) 2 g
(D) 275 g

Answer: (A) 276 g · The council's preliminary key

Q126 AP EAMCET 2020 · 21 Sep · Shift 1 MCQ

The molarity of 0.2 N $\mathrm{Na_2CO_3}$ solution will be

(A) $0.05\ M$
(B) $0.2\ M$
(C) $0.1\ M$
(D) $0.4\ M$

Answer: (C) $0.1\ M$ · The council's preliminary key

Q127 AP EAMCET 2020 · 21 Sep · Shift 1 MCQ

Vapour density of a metal chloride is 83. If equivalent weight of the metal is 6, its atomic weight will be _____

(A) 12
(B) 24
(C) 18
(D) 60

Answer: (B) 24 · Checked by our team

Q128 AP EAMCET 2020 · 21 Sep · Shift 2 MCQ

Calculate the concentration of fluorine in ppm in 500 g of toothpaste containing 0.2 g of fluorine.

(A) 2×10^2
(B) 4×10^2
(C) 4×10^0
(D) 4×10^3

Answer: (B) 4×10^2 · The council's preliminary key

Q129 AP EAMCET 2020 · 21 Sep · Shift 2 MCQ

A 40% by mass sucrose solution is heated till it becomes 50% by mass. Calculate the mass of water lost from 100 g of the solution is

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(A) 10 g
(B) 15 g
(C) 20 g
(D) 25 g

Answer: (C) 20 g · The council's preliminary key

Q130 AP EAMCET 2020 · 21 Sep · Shift 2 MCQ

When 10 g of Copper and 10 g of Iodine are mixed, calculate the theoretical yield of CuI according to the equation $2\mathrm{Cu} + \mathrm{I_2} \rightarrow 2\mathrm{CuI}$.

(A) 30 g
(B) 10 g
(C) 15 g
(D) 20 g

Answer: (C) 15 g · The council's preliminary key

Q131 AP EAMCET 2020 · 21 Sep · Shift 2 MCQ

At STP, if 5.6 litres of a gas weighs 7.5 gm, then identify the gas.

(A) CO
(B) NO
(C) $\mathrm{NO_2}$
(D) $\mathrm{CO_2}$

Answer: (B) NO · The council's preliminary key

Q132 AP EAMCET 2020 · 18 Sep · Shift 1 MCQ

Calculate the amount of CO_2 gas produced, when 32g moles of CH_4 is burned with sufficient amount of oxygen. (Given atomic weights of $C = 12, O = 16, H = 1$)

(A) 132 g
(B) 44 g
(C) 88 g
(D) 176 g

Answer: (C) 88 g · The council's preliminary key

Q133 AP EAMCET 2020 · 18 Sep · Shift 2 MCQ

Calculate the density of an aqueous solution of KI if its molarity and molality are 1.44 M and 1.5 $mol.kg^{-1}$ respectively.

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(A) $2.20\ gL^{-1}$
(B) $2.50\ gL^{-1}$
(C) $1.20\ gL^{-1}$
(D) $0.50\ gL^{-1}$

Answer: (C) $1.20\ gL^{-1}$ · The council's preliminary key

Q134 AP EAMCET 2020 · 18 Sep · Shift 2 MCQ

Calculate the molarity of $NaOH$ solution prepared by dissolving 0.4 g of $NaOH$ in enough water to form 500ml of the solution.

(A) 0.02
(B) 0.05
(C) 0.04
(D) 0.03

Answer: (A) 0.02 · The council's preliminary key

Q135 AP EAMCET 2020 · 18 Sep · Shift 2 MCQ

When 30 ml of H_2 reacts with 20 ml of O_2 to form water, what is leftover when the reaction ends?

(A) 10 ml H_2
(B) 5 ml H_2
(C) 10 ml O_2
(D) 5 ml O_2

Answer: (D) 5 ml O_2 · The council's preliminary key

Q136 AP EAMCET 2020 · 18 Sep · Shift 2 MCQ

Which of the following is true about sodium chloride?

(A) Molecular mass = 58.5 amu
(B) Formula mass = 58.5 amu
(C) Molecular mass = 5.85 amu
(D) Formula mass = 5.85 amu

Answer: (B) Formula mass = 58.5 amu · The council's preliminary key

Q137 AP EAMCET 2020 · 17 Sep · Shift 1 MCQ

One mole of oxygen gas at STP is equal to

(A) 6.022×10^{23} molecules of oxygen
(B) 6.022×10^{23} atoms of oxygen
(C) 16 g of oxygen
(D) 3.2 g of oxygen

Answer: (A) 6.022×10^{23} **molecules of oxygen** · The council's preliminary key

Q138 AP EAMCET 2020 · 17 Sep · Shift 1 MCQ

A 40% HCl solution has density 1.2 g.ml^{-1}. The molarity of the solution is nearly _____

(A) 11 M
(B) 12 M
(C) 13 M
(D) 14 M

Answer: (C) 13 M · The council's preliminary key

Q139 AP EAMCET 2020 · 17 Sep · Shift 1 MCQ

10g of $NaOH$ is dissolved in 500 ml of aqueous solution. Calculate the molarity of this solution? (Formula weight of $NaOH$ = 40)

(A) 0.5×10^{-3} M
(B) 0.4 M
(C) 0.25×10^{-3} M
(D) 0.5 M

Answer: (D) 0.5 M · The council's preliminary key

Q140 TS EAMCET 2020 · 14 Sep · Shift 1 MCQ

The molecular mass of sucrose ($C_{12}H_{22}O_{11}$) is

(A) 312 g
(B) 355 g
(C) 342 g
(D) 308 g

Answer: (C) 342 g · Official TGCHE final key

Q141 TS EAMCET 2020 · 14 Sep · Shift 2 MCQ

Given the ratio of amounts of nitrogen and oxygen in a particular gaseous mixture is 4 :1. Calculate the ratio of number of their molecules?

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(A) 11 : 4
(B) 32 : 7
(C) 4 : 15
(D) 13 : 8

Answer: (B) 32 : 7 · Official TGCHE final key

Q142 TS EAMCET 2020 · 14 Sep · Shift 2 MCQ

Sulphuric acid reacts with sodium hydroxide as follows
$H_2SO_4 + 2NaOH \rightarrow Na_2SO_4 + 2H_2O$
What will be the amount of sodium sulphate formed, when 1 L of 0.2 M sulphuric acid is allowed to react with 1 L of 0.2 M sodium hydroxide solution?

(A) 4.5 g
(B) 142 g
(C) 14.2 g
(D) 1.42 g

Answer: (C) 14.2 g · Official TGCHE final key

Q143 TS EAMCET 2020 · 11 Sep · Shift 1 MCQ

For a given unbalanced reaction, $MnO_2 + HCl \rightarrow MnCl_2 + H_2O$, which is the limiting reagent if the initial amount for each of the reactant is 100 grams?
[Molar masses: MnO_2 = 86.9; HCl = 36.5; $MnCl_2$ = 125.8; Cl_2 = 70.9; H_2O = 18]

(A) MnO_2
(B) HCl
(C) $MnCl_2$
(D) Cl_2

Answer: (B) HCl · Official TGCHE final key

Q144 TS EAMCET 2020 · 11 Sep · Shift 1 MCQ

The emperical formula of a compound is C_2H_5O and its vapor density is 45. What is the molecular formula of the compound?

(A) C_2H_5O
(B) $C_6H_{13}O_3$
(C) $C_4H_{10}O_2$
(D) $C_6H_{15}O_3$

Answer: (C) $C_4H_{10}O_2$ · Official TGCHE final key

EdLoop EAPCET

Q145 TS EAMCET 2020 · 11 Sep · Shift 2 MCQ

How much volume of 1 N aqueous solution of H_2SO_4 should be taken, which will contain 0.2 moles of H_2SO_4?

(A) 200 mL
(B) 400 mL
(C) 20 mL
(D) 40 mL

Answer: (B) 400 mL · Official TGCHE final key

Q146 TS EAMCET 2020 · 11 Sep · Shift 2 MCQ

The weight of potassium dichromate (molecular weight = 294) required to prepare 0.04 N of 250 mL solution is

(A) 2.94 g
(B) 29.4 g
(C) 0.98 g
(D) 0.49 g

Answer: (D) 0.49 g · Official TGCHE final key

Q147 TS EAMCET 2020 · 10 Sep · Shift 2 MCQ

What is the equivalent weight of $KMnO_4$ in acidic medium?
(Molecular weight of $KMnO_4$ = 158 g)

(A) 158 g
(B) 52.7 g
(C) 31.6 g
(D) 39.5 g

Answer: (C) 31.6 g · Official TGCHE final key

Q148 TS EAMCET 2020 · 10 Sep · Shift 2 MCQ

An aqueous solution of 9.8 % (w/w) H_2SO_4 has density of 1.02 g/cc. The Molality of the solution is

(A) 1.1
(B) 0.7
(C) 2.1
(D) 1.5

Answer: (A) 1.1 · Official TGCHE final key

Q149 TS EAMCET 2020 · 10 Sep · Shift 2 MCQ

25 mL of 0.1 N NaOH solution neutralizes 12.5 mL of HCl solution. The amount of water needed to convert 500 mL of such HCl solution to 0.1 N is

(A) 555 mL
(B) 500 mL
(C) 50 mL
(D) 55.5 mL

Answer: (B) 500 mL · Official TGCHE final key

Q150 TS EAMCET 2020 · 9 Sep · Shift 1 MCQ

How many moles of Ammonia are produced by 5 moles of Hydrogen?

(A) 2.3
(B) 8.3
(C) 10.3
(D) 3.3

Answer: (D) 3.3 · Official TGCHE final key

Q151 TS EAMCET 2020 · 9 Sep · Shift 1 MCQ

C_2H_4 can react with H_2 in presence of a catalyst to form C_2H_6 as per the following reaction,
$C_2H_4(g) + H_2(g) \xrightarrow{\text{Catalyst}} C_2H_6(g)$
The amount of C_2H_4 in grams required to produce 50 grams of C_2H_6 is

(A) 36.44 g
(B) 22.18 g
(C) 46.67 g
(D) 57.11 g

Answer: (C) 46.67 g · Official TGCHE final key

Q152 TS EAMCET 2020 · 9 Sep · Shift 2 MCQ

What is the total number of electrons present in one mole of ethane?

(A) 6.022×10^{23}
(B) 10.022×10^{25}
(C) 108.4×10^{23}
(D) 1.084×10^{23}

Answer: (C) 108.4×10^{23} · Official TGCHE final key

Q153 TS EAMCET 2020 · 9 Sep · Shift 2 MCQ

How many grams of $Cu(NO_3)_2$ is needed to get 1 gram of copper? (atomic mass Cu = 63.5, N = 14, O = 16)

(A) 1.00
(B) 2.00
(C) 1.95
(D) 2.95

Answer: (D) 2.95 · Official TGCHE final key

Q154 TS EAMCET 2020 · 9 Sep · Shift 2 MCQ

Which of the following statements is not true about atomic mass?

(A) The atomic mass of an element is expressed relative to ^{12}C isotope of carbon.
(B) Atomic mass of Na is 23.
(C) The atomic mass of an atom is obtained by taking sum of atomic masses of different isotopes of the element.
(D) Atomic mass used for an element is the average atomic mass obtained by taking into account the natural abundance of different isotopes of that element.

Answer: (C) The atomic mass of an atom is obtained by taking sum of atomic masses of different isotopes of the element. · Official TGCHE final key

Q155 TS EAMCET 2019 · 6 May · Shift 1 MCQ

The number of moles of H_2 which is required to produce 10 moles of NH_3 in the following reaction is $a\,H_2(g) + b\,NO_2(g) \longrightarrow c\,NH_3(g) + d\,H_2O(g)$

(A) 10
(B) 20
(C) 35
(D) 53

Answer: (C) 35 · Official TGCHE final key

Q156 TS EAMCET 2019 · 4 May · Shift 1 MCQ

A spherical ball of radius 7 cm contains 56 w% iron. Find out the number of moles of iron present approximately in the ball? ($d = 1.4\ g\ cm^{-3}$; atomic mass $= 56\ g\ mol^{-1}$)

(A) 15.1
(B) 20.1
(C) 25.1
(D) 35.1

Answer: (B) 20.1 · Official TGCHE final key

Q157 TS EAMCET 2019 · 4 May · Shift 2 MCQ

The approximate molarity of a solution in mol L^{-1} that contains 13.50 g of NaCl dissolved in 452 mL of water is

(A) 0.25
(B) 0.51
(C) 1.0
(D) 1.2

Answer: (B) 0.51 · Official TGCHE final key

Q158 TS EAMCET 2019 · 3 May · Shift 1 MCQ

In a 1 L vessel, 10 moles of methane and 50 moles of O_2 are present. The number of moles of O_2, water and CO_2 present in the vessel are respectively after the vessel was heated to burn methane completely.

(A) 30, 20, 20
(B) 30, 20, 10
(C) 20, 30, 10
(D) 20, 10, 30

Answer: (B) 30, 20, 10 · Official TGCHE final key

Q159 TS EAMCET 2019 · 3 May · Shift 1 MCQ

The molality (in mol kg^{-1}) of 1 mole of solute in 50 g of solvent is:

(A) 10
(B) 20
(C) 30
(D) 40

Answer: (B) 20 · Official TGCHE final key

Q160 TS EAMCET 2019 · 3 May · Shift 2 MCQ

What is the equivalent weight of methanol if one mole of CH_3OH is combusted to form CO and H_2O.

(A) 8
(B) 5.33
(C) 4
(D) 10.66

Answer: (A) 8 · Official TGCHE final key

Q161 TS EAMCET 2019 · 3 May · Shift 2 MCQ

While combusting in air, 4 g of H_2 gas was completely converted into water. If 36 μ mole of CO_2 from air is dissolved into that water, what is the concentration of CO_2?

(A) 1 μM
(B) 1 mM
(C) 1 nM
(D) 1000 mM

Answer: (B) 1 mM · Official TGCHE final key

Q162 AP EAMCET 2019 · 22 Apr · Shift 2 MCQ

4.90 g of impure potassium chlorate on heating shows a weight loss of 0.384 g. What percent of the impure potassium chlorate has decomposed?

(A) 20
(B) 30
(C) 40
(D) 80

Answer: (A) 20 · Official APSCHE final key

Q163 AP EAMCET 2019 · 21 Apr · Shift 1 MCQ

30.0 mL of the given HCl solution requires 20.0 mL of 0.1 M sodium carbonate solution for complete neutralisation. What is the volume of this HCl solution required to neutralise 30.0 mL of 0.2 M NaOH solution?

(A) 25 mL
(B) 50 mL
(C) 90 mL
(D) 45 mL

Answer: (D) 45 mL · Official APSCHE final key

Q164 AP EAMCET 2019 · 20 Apr · Shift 1 MCQ

The number of moles of solute present in the solutions of I, II and III is respectively.
I) 500 mL of 0.2 M NaOH

II) 200 mL of 0.1 N H_2SO_4
III) 6 g of urea in 1 kg of water

(A) 0.1, 0.01, 0.1
(B) 0.1, 0.02, 0.1
(C) 0.2, 0.01, 0.1
(D) 0.1, 0.01, 0.2

Answer: (A) 0.1, 0.01, 0.1 · Official APSCHE final key

Q165 AP EAMCET 2019 · 20 Apr · Shift 2 MCQ

On reduction with hydrogen, 3.6g of an oxide of metal (M) left 3.2g of the metal. If the atomic weight of the metal is 64, the formula of the oxide is

(A) M_2O_3
(B) M_2O
(C) MO
(D) MO_2

Answer: (B) M_2O · Official APSCHE final key

Q166 TS EAMCET 2018 · 7 May · Shift 1 MCQ

$CaCO_3$ reacts with HCl to produce $CaCl_2$, CO_2 and H_2O. The approximate mass (in g) of $CaCO_3$ required to react completely with 25 mL of 0.75 M HCl is (atomic mass of Ca = 40, C = 12, O = 16, Cl = 35.5 and H = 1)

(A) 94
(B) 9.4
(C) 0.94
(D) 0.094

Answer: (C) 0.94 · The council's preliminary key

Q167 TS EAMCET 2018 · 7 May · Shift 1 MCQ

Calculate the approximate mass (in g) of H_2S required for the following reaction when 15 L of oxygen at STP reacts completely.

$x\,H_2S_{(g)} + y\,O_{2(g)} \longrightarrow a\,SO_{2(g)} + b\,H_2O_{(g)}$

(molar mass of H_2S = 34 g mol^{-1})

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(A) 12.11
(B) 15.16
(C) 34.12
(D) 68.24

Answer: (B) 15.16 · The council's preliminary key

Q168 TS EAMCET 2018 · 7 May · Shift 1 MCQ

0.1 mol of NaCl is dissolved in 100 g of water. The mole fraction of NaCl is

(A) 0.0213
(B) 0.0177
(C) 0.2290
(D) 0.0330

Answer: (B) 0.0177 · The council's preliminary key

Q169 TS EAMCET 2018 · 5 May · Shift 1 MCQ

28 g KOH is required to completely neutralise CO_2 produced on heating 60 g of impure $CaCO_3$. The percentage purity of $CaCO_3$ is approximately
(molar masses of KOH and $CaCO_3$ are 56 and $100\ g\ mol^{-1}$, respectively)

(A) 41.6
(B) 40
(C) 20.8
(D) 83.3

Answer: (A) 41.6 · The council's preliminary key

Q170 TS EAMCET 2018 · 5 May · Shift 1 MCQ

Molarity of a 50 mL H_2SO_4 solution is 10.0 M. If the density of the solution is 1.4 gm/cc, calculate its molality

(A) 7.14
(B) 8.00
(C) 10.0
(D) 0.500

Answer: (A) 7.14 · The council's preliminary key

Q171 TS EAMCET 2018 · 5 May · Shift 2 MCQ

The amount of iron (Fe) in g which can be produced from $600\ g$ of magnetite ore is
[Atomic mass of Fe : 55.8]

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(A) 450
(B) 379
(C) 434
(D) 210

Answer: (C) 434 · The council's preliminary key

Q172 TS EAMCET 2018 · 5 May · Shift 2 MCQ

Hardness of water is 200 ppm. Calculate the molarity and normality of $CaCO_3$ of the water

(A) 4×10^{-3} M ; 2×10^{-3} N
(B) 2×10^{-6} M ; 4×10^{-3} N
(C) 2×10^{-3} M ; 4×10^{-3} N
(D) 1×10^{-3} M ; 4×10^{-3} N

Answer: (C) 2×10^{-3} M ; 4×10^{-3} N · The council's preliminary key

Q173 TS EAMCET 2018 · 4 May · Shift 1 MCQ

When 10 g of 90% pure limestone is heated, the approximate volume (in L) of CO_2 liberated at STP is

(A) 4.4
(B) 2.0
(C) 4.0
(D) 22.4

Answer: (B) 2.0 · The council's preliminary key

Q174 TS EAMCET 2018 · 4 May · Shift 1 MCQ

A litre of sea water (which weighs 1030 g) contains 6×10^{-3} g of dissolved oxygen. The concentration of dissolved oxygen in ppm is

(A) 5.8
(B) 6.0
(C) 6.2
(D) 6.4

Answer: (A) 5.8 · Checked by our team

Q175 TS EAMCET 2018 · 4 May · Shift 2 MCQ

Calculate the molality of 1 litre solution of 93% H_2SO_4 by w/v.
[$d_{H_2SO_4}$ = 1.84 g/cc]

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(A) 3.71
(B) 8.5
(C) 12.4
(D) 10.42

Answer: (D) 10.42 · The council's preliminary key

Q176 AP EAMCET 2018 · 23 Apr · Shift 2 MCQ

The volume of 0.1 M HCl required in mL to neutralise 20 mL of a solution containing 0.106 g of Na_2CO_3 is

(A) 10
(B) 5
(C) 20
(D) 40

Answer: (C) 20 · The council's preliminary key

Q177 AP EAMCET 2018 · 22 Apr · Shift 1 MCQ

Dissolving $120\ g$ of a compound (mol.wt = 60) in $1000\ g$ of water gave a solution of density $1.12\ g\ mL^{-1}$. The molarity of solution is

(A) $1.0\ M$
(B) $2.0\ M$
(C) $2.5\ M$
(D) $4.0\ M$

Answer: (B) $2.0\ M$ · The council's preliminary key

Q178 AP EAMCET 2018 · 22 Apr · Shift 2 MCQ

To 50 mL of 0.1 N Na_2CO_3 solution 150 mL of water is added. What is the molarity of resultant solution?

(A) $\frac{M}{40}$
(B) $\frac{M}{20}$
(C) $\frac{M}{80}$
(D) $\frac{M}{30}$

Answer: (C) $\frac{M}{80}$ · The council's preliminary key

Q179 TS EAMCET 2017 · 12 May · Offline MCQ

Commercially available H_2SO_4 is 98 gms by weight of H_2SO_4 and 2gms by weight of water. It's density is 1.83 g cm^{-3}. Calculate the molality (m) of H_2SO_4 (molar mass of H_2SO_4 is 98 g mol^{-1})

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(A) 500 m
(B) 20 molal
(C) 50 m
(D) 200 m

Answer: (A) 500 m · The council's preliminary key

Q180 TS EAMCET 2017 · 12 May · Offline MCQ

Balance the following equation by choosing the correct option
$x\mathrm{KNO_3} + y\mathrm{C_{12}H_{22}O_{11}} \rightarrow p\mathrm{N_2} + q\mathrm{CO_2} + r\mathrm{H_2O} + s\mathrm{K_2CO_3}$
(columns: x, y, p, q, r, s)

(A) 36, 55, 24, 24, 5, 48
(B) 48, 5, 24, 36, 55, 24
(C) 24, 24, 36, 55, 48, 5
(D) 24, 48, 36, 24, 5, 55

Answer: (B) 48, 5, 24, 36, 55, 24 · The council's preliminary key

Q181 AP EAMCET 2017 · 26 Apr · Shift 1 MCQ

Two oxides of a non-metal X contain 50% and 40% of non-metal respectively. If the formula of the first oxide is $\mathrm{XO_2}$, then the formula of second oxide is

(A) $\mathrm{XO_3}$
(B) $\mathrm{X_2O}$
(C) $\mathrm{X_2O_3}$
(D) $\mathrm{X_2O_5}$

Answer: (A) $\mathrm{XO_3}$ · The council's preliminary key

Q182 AP EAMCET 2017 · 24 Apr · Shift 1 MCQ

What volume (in mL) of HCl solution containing 73 g per litre is required to completely neutralise sodium hydroxide solution, obtained by allowing 0.46 g of metallic sodium to act upon water?

(A) 30
(B) 20
(C) 10
(D) 40

Answer: (C) 10 · The council's preliminary key

Q183 AP EAMCET 2017 · 24 Apr · Shift 2 MCQ

8 g of a metal reacted with oxygen to form 9 g of its oxide. What is the weight (in g) of the metal required to react with 8 g of hydrogen? (H = 1.0)

(A) 1024
(B) 128
(C) 256
(D) 512

Answer: (D) 512 · The council's preliminary key

Q184 TS EAMCET 2016 · 15 May · Offline MCQ

In Haber's process 50.0 g of $N_2(g)$ and 10.0 g of $H_2(g)$ are mixed to produce $NH_3(g)$. What is the number of moles of $NH_3(g)$ formed ?

(A) 3.33
(B) 2.36
(C) 2.01
(D) 5.36

Answer: (A) 3.33 · Official TGCHE final key

Q185 TS EAMCET 2016 · 15 May · Offline MCQ

The following reaction occurs in acidic medium
$KMnO_4 + 8H^+ + 5e^- \rightarrow K^+ + Mn^{2+} + 4H_2O$
What is the equivalent weight of $KMnO_4$?
(Molecular weight of $KMnO_4$ = 158)

(A) 79.0
(B) 31.6
(C) 158.0
(D) 39.5

Answer: (B) 31.6 · Official TGCHE final key

Q186 AP EAMCET 2014 · 22 May · Offline MCQ

The oxide of a metal contains 40% of oxygen. The valency of metal is 2. What is the atomic weight of the metal ?

(A) 24
(B) 12
(C) 40
(D) 36

Answer: (A) 24 · The council's preliminary key

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Q187 AP EAMCET 2011 · 8 May · Offline MCQ

A metal nitride contains 28% nitrogen by weight. The molecular formula of metal nitride is M_3N_2. What is the atomic weight of metal ?

(A) 72
(B) 64
(C) 100
(D) 24

Answer: (D) 24 · The council's preliminary key

Q188 AP EAMCET 2010 · 30 May · Offline MCQ

The number of molecules of CO_2 liberated by the complete combustion of 0.1 gram atom of graphite in air is :

(A) 3.01×10^{22}
(B) 6.02×10^{23}
(C) 6.02×10^{22}
(D) 3.01×10^{23}

Answer: (C) 6.02×10^{22} · Official APSCHE final key

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