

Some Basic Concepts of Chemistry

NEET previous year questions · Chemistry

5 questions from the official papers: NEET 2026 (2), Re-NEET 2026 (2), NEET 2020 (1). Each is followed by its answer and a worked solution written by BrainIt. Generated on 23 October 2026.



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1. NEET 2026 · Q61

The number of hydrogen atoms present in 5.4 g of urea is: (Given: Molar mass of urea = 60 g mol^{-1} ; $N_A = 6.022 \times 10^{23} \text{ particles mol}^{-1}$)

- (1) 1.084×10^{23} (2) 1.084×10^{22}
(3) 2.168×10^{22} (4) 2.168×10^{23}

Answer (4)

Sol. Moles of urea = $5.4/60 = 0.09 \text{ mol}$. Urea, NH_2CONH_2 , contains 4 hydrogen atoms per molecule. So number of H atoms = $0.09 \times 4 \times 6.022 \times 10^{23} \approx 2.168 \times 10^{23}$. The distractors arise from using the wrong number of H atoms per molecule or a wrong power of ten.

2. NEET 2026 · Q84

When 1 dm^3 of CO_2 gas is passed over hot coke, the volume of gaseous mixture after complete reaction at STP becomes 1.4 dm^3 . The composition of the gaseous mixture at STP is:

- (1) 0.8 dm^3 of CO, 0.8 dm^3 of CO_2
(2) 0.8 dm^3 of CO, 0.6 dm^3 of CO_2
(3) 0.6 dm^3 of CO, 0.8 dm^3 of CO_2
(4) 0.6 dm^3 of CO, 0.4 dm^3 of CO_2

Answer (2)

Sol. The reaction $\text{CO}_2 + \text{C(s)} \rightarrow 2\text{CO}$ converts $x \text{ dm}^3$ of CO_2 into $2x \text{ dm}^3$ of CO. Total final volume = $(1 - x) + 2x = 1 + x = 1.4$, so $x = 0.4 \text{ dm}^3$. Therefore CO_2 remaining = $1 - 0.4 = 0.6 \text{ dm}^3$ and CO formed = $2 \times 0.4 = 0.8 \text{ dm}^3$, which is option (2).

3. Re-NEET 2026 · Q51

The numbers 17.0145 and 21.0235 were rounded to three figures after the decimal point. The resulting numbers, respectively, are

- (1) 17.014 and 21.023 (2) 17.015 and 21.023
(3) 17.014 and 21.024 (4) 17.015 and 21.024

Answer (3)

Sol. Both numbers end in an exact 5 with nothing after it, which is the tie case, so the round-half-to-EVEN convention applies rather than always rounding up. In 17.0145 the digit to be retained is 4, already even, so it stays: 17.014. In 21.0235 the retained digit is 3, which is odd, so it is raised to the even value 4: 21.024. NCERT Class 11, Some Basic Concepts of Chemistry (significant figures).

4. Re-NEET 2026 · Q63

The amount of carbon dioxide evolved upon complete combustion of 116 g of n-butane is (Given: atomic mass in amu H = 1, C = 12 and O = 16)

- (1) 352 g (2) 322 g (3) 176 g (4) 362 g

Answer (1)

Sol. n-Butane is C_4H_{10} with molar mass 58 g/mol, so 116 g is exactly 2 mol. The balanced combustion $\text{C}_4\text{H}_{10} + 13/2\text{O}_2 \rightarrow 4\text{CO}_2 + 5\text{H}_2\text{O}$ yields 4 mol of CO_2 per mole of butane, hence 8 mol here. Mass of $\text{CO}_2 = 8 \times 44 = 352 \text{ g}$. NCERT Class 11, Some Basic Concepts of Chemistry (stoichiometry).

5. NEET 2020 · Q117

Which one of the followings has maximum number of atoms?

- (1) 1 g of Mg(s) [Atomic mass of Mg = 24]
(2) 1 g of $\text{O}_2(\text{g})$ [Atomic mass of O = 16]
(3) 1 g of Li(s) [Atomic mass of Li = 7]
(4) 1 g of Ag(s) [Atomic mass of Ag = 108]

Answer (3)

Sol. To find the number of atoms, use $n = \frac{m}{M} \times N_A$, where m is mass, M is molar mass, and N_A is Avogadro's number. For 1 g of each: - Ag: $\frac{1}{108} \times N_A$ - Mg: $\frac{1}{24} \times N_A$ - O_2 : $\frac{1}{32} \times 2 \times N_A = \frac{1}{16} \times N_A$ (since O_2 has a molar mass of 32 g/mol and two atoms per

molecule) - Li: $\frac{1}{7} \times N_A$ Li has the highest number of atoms. Chapter: Some Basic Concepts of Chemistry.

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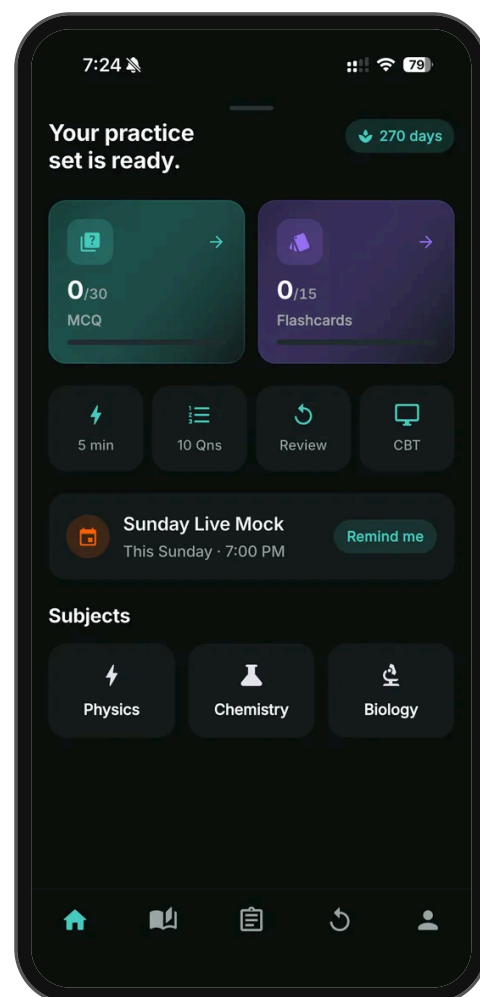
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