

PYQSide

JEE MAIN SOME BASIC CONCEPTS OF CHEMISTRY — CALCULATION OF NUMBER OF PARTICLES (Y-MAP) — PYQS

Max. Marks: 24

Questions: 6

Section A (MCQ)

Q.1 Match List - I with List - II.

List - I Mass of substance		List - II Number of atoms	
A.	1.8 mg water	I.	$2 \times 10^{-4} \times N_A$
B.	9.8 mg sulphuric acid	II.	$1.5 \times 10^{-4} \times N_A$
C.	1.8 mg carbon	III.	$3 \times 10^{-4} \times N_A$
D.	5.85 mg salt (NaCl)	IV.	$7 \times 10^{-4} \times N_A$

Choose the correct answer from the options given below : [JEE Main 2026 (Online) 8th April Evening Shift]

- (1) A-IV, B-III, C-I, D-II (2) A-III, B-II, C-IV, D-I
(3) A-III, B-IV, C-II, D-I (4) A-III, B-IV, C-I, D-II

Scan or tap for the full solution



Q.2 Which of the following contain the same number of atoms?

(Given : Molar mass in g mol^{-1} of H, He, O and S are 1, 4, 16 and 32 respectively)

- A. 2 g of O_2 gas
B. 4 g of SO_2 gas
C. 1400 mL of O_2 at STP
D. 0.05 L of He at STP
E. 0.0625 mol of H_2 gas

Choose the correct answer from the options given below : [JEE Main 2026 (Online) 6th April Evening Shift]

- (1) A and B only (2) B and C only
(3) C and D only (4) A, C and E only

Scan or tap for the full solution



Q.3 Number of moles and number of molecules in 1.4187 L of SO_2 at STP respectively are

[JEE Main 2026 (Online) 4th April Morning Shift]

- (1) 0.1266; 3.812×10^{22}
(2) 0.0633; 3.812×10^{22}
(3) 0.1266; 7.6238×10^{22}
(4) 0.0633; 7.6238×10^{22}

Scan or tap for the full solution



Q.4 The correct order of total number of atoms present in

- (A) 2 moles of cyclohexane
(B) 684 g of sucrose
(C) 90.8 L of dihydrogen at STP

is : [JEE Main 2026 (Online) 4th April Evening Shift]

- (1) $C > A > B$ (2) $C > B > A$
(3) $B > C > A$ (4) $B > A > C$

Scan or tap for the full solution



Q.5 Among 10^{-9} g (each) of the following elements, which one will have the highest number of atoms?
Element: Pb, Po, Pr and Pt

[JEE Main 2025 (Online) 3rd April Morning Shift]

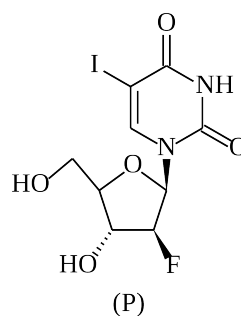
- (1) Pr (2) Pt (3) Po (4) Pb

Scan or tap for the full solution



Section B (Numerical)

Q.6 0.1 mol of the following given antiviral compound (P) will weigh _____ $\times 10^{-1}$ g (nearest integer).



(Given : molar mass in g mol^{-1} H : 1, C : 12, N : 14, O : 16, F : 19, I : 127)

[JEE Main 2025 (Online) 2nd April Morning Shift]

Scan or tap for the full solution



ANSWER KEY**Section A (MCQ)**

Ques.	1	2	3	4	5						
Ans.	3	4	2	4	1						

Section B (Numerical)

Ques.	6							
Ans.	372							