

JEE MAIN EQUILIBRIUM — PH OF STRONG ACID, STRONG BASE AND MIXTURE OF STRONG ACID OR STRONG BASE — PYQS

Max. Marks: 12
Questions: 3

Section A (MCQ) — 2 questions

Q.1 Arrange the following resultant mixtures in increasing order of their pH values

- A. 10 mL 0.2 M Ca(OH)_2 + 25 mL 0.1 M HCl
 B. 10 mL 0.01 M H_2SO_4 + 10 mL 0.01 M Ca(OH)_2
 C. 10 mL 0.1 M H_2SO_4 + 10 mL 0.1 M KOH

Choose the correct answer from the options given below : [JEE Main 2026 (Online) 5th April Morning Shift]

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

Scan or tap for the full solution



Q.2 An aqueous solution of HCl with pH 1.0 is diluted by adding equal volume of water (ignoring dissociation of water). The pH of HCl solution would

(Given $\log 2 = 0.30$)

[JEE Main 2025 (Online) 7th April Morning Shift]

- (1) increase to 1.3 (2) reduce to 0.5
 (3) increase to 2 (4) remain same

Scan or tap for the full solution



Section B (Numerical) — 1 question

Q.3 x mg of Mg(OH)_2 (molar mass = 58 g mol^{-1}) is required to be dissolved in 1.0 L of water to produce a pH of 10.0 at 298 K. The value of x is _____ mg.

(Nearest integer)

(Given : Mg(OH)_2 is assumed to dissociate completely in H_2O)

[JEE Main 2025 (Online) 4th April Evening Shift]

Scan or tap for the full solution



ANSWER KEY

Section A (MCQ) — 2 questions

Ques.	1	2									
Ans.	3	1									

Section B (Numerical) — 1 question

Ques.	3										
Ans.	3										