

Max. Marks: 16

Questions: 4

ANSWER KEY

[JEE Main 2025 (Online) 28th January Morning Shift]

- (1) $\log\left(\frac{1-x}{x}\right)$ (2) 0
(3) $\log(1+2x)$ (4) $\log\left(\frac{x}{1-x}\right)$

Scan or tap for the full solution



Section A (MCQ) — 1 question

[illegible]

Ques.	2	3	4				
Ans.	3	100	25				

$$\text{HA} \rightleftharpoons \text{H}^+(\text{aq}) + \text{A}^-(\text{aq})$$

[Given: The degree of dissociation can be neglected with respect to unity]

[JEE Main 2026 (Online) 28th January Morning Shift]

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full solution



Q.3 The first and second ionization constants of H_2X are 2.5×10^{-8} and 1.0×10^{-13} respectively. The concentration of X^{2-} in 0.1 M H_2X solution is _____ $\times 10^{-15}$ M. (Nearest Integer)

[JEE Main 2026 (Online) 21st January Evening Shift]

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Q.4 The pH of a 0.01 M weak acid HX ($K_a = 4 \times 10^{-10}$) is found to be 5. Now the acid solution is diluted with excess of water so that the pH of the solution changes to 6. The new concentration of the diluted weak acid is given as $x \times 10^{-4}$ M. The value of x is _____ (nearest integer)

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

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