

Chemistry Suggestion paper - Acid Base concept

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1. Explain these theories with example:
 - Arrhenius theory
 - Brønsted-Lowry theory
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 - Lewis Concept
 - Conjugate Acid-Base
2. Find the ionic product of water.
3. Prove that, $pH + pOH = 14$
4. Calculate the pH of 2.5% $NaOH$ solution.
5. Explain these terms:
 - Buffer solution
 - Buffer mechanism
6. Derive Henderson–Hasselbalch equation.
7. Calculate the pH of 0.1(M) CH_3COOH and 0.1(M) CH_3COONa buffer and also calculate the $[H^+]$ conc. of the solution. $[k_a = 10^{-5}]$