

Hydrogen ion concentration- pH scale and Buffer solution

201. A buffer solution can be prepared from a mixture of

- (a) Sodium acetate and acetic acid in water
- (b) Sodium acetate and hydrochloric acid in water
- (c) Ammonia and ammonium chloride in water
- (d) Ammonia and sodium hydroxide in water

202. Which of the following will not function as a buffer solution

- (a) $NaCl$ and $NaOH$
- (b) $NaOH$ and NH_4OH
- (c) CH_3COONH_4 and HCl
- (d) Borax and boric acid

203. Which one of the following statements is not true

- (a) The conjugate base of $H_2PO_4^-$ is HPO_4^{2-}
- (b) $pH + pOH = 14$ for all aqueous solutions
- (c) The pH of $1 \times 10^{-8} M HCl$ is 8
- (d) 96,500 coulombs of electricity when passed through a $CuSO_4$ solution deposits 1 gram equivalent of copper at the cathode

204. The pH value of $0.1 M HCl$ is approximately 1. What will be the approximate pH value of $0.05 M H_2SO_4$

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| (a) 0.05 | (b) 0.5 |
| (c) 1 | (d) 2 |

205. The K_{sp} of $Mg(OH)_2$ is 1×10^{-12} , $0.01 M Mg(OH)_2$ will precipitate at the limiting pH

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| (a) 3 | (b) 9 |
| (c) 5 | (d) 8 |

206. The pH of an aqueous solution having hydroxide ion concentration as 1×10^{-5} is

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| (a) 5 | (b) 9 |
| (c) 4.5 | (d) 11 |

207.

