# CHEMISTRY



**1)A weak monobasic acid is 1% dissociated in an aq. Solution. pH of the solution =3.its morality is**

A) 1M
B) 0.1M
C) 0.01M
D) 0.001M $[H^+] = \propto C$, $C = \frac{10^{-3}}{0.01} = 0.01$

**2)Which of the following gives an acidic solution in water**

A)$NH_4cl$ B)$NH_4No_3$
C)$(NH_4)_2SO_4$ D)all the above

**3) Number of $H^+$ ions present in 1 mole of water at 25Ĥ**

A) $10^{-7}$
B) $10^{7}$
C) $6.022x10^{23}$
D) $6.022x10^{16}$ $[H^+]=10^{-7}x6.022x10^{23}$ $=6.022x10^{16}$

**4)$[H^+]$ of a solution increases by 10 times, then ρH its**

A) Increases by I unit
B) Decreases by I unit
C) Increases by 0.1 unit
D) Decreases by 0.1 unit

**5) Equal volumes of 2 solutions of ρH=3 and ρH=5 are mixed. ρH of the resulting solution is**

A) 4 B) 4.5
C) 5 D) 3.3

$[H^+] = \frac{10^{-3}+10^{-5}}{2} = 10^{-4} \times 5.5$ ρH=3.3

**6) ρka of two acids of equal molarity are 4 and 5. The strengths of the acids are in the ratio**

A) 4:5 B)10:1
C) 10:3.2 D)1:10

$$\frac{[H^+]_1}{[H^+]_2} = \frac{ka_1}{ka_2} = \sqrt{\frac{10^{-4}}{10^{-5}}} = \sqrt{\frac{10^{-2}}{10^{-3}\sqrt{10}}} = \frac{10}{3.2}$$

**7) Which of the following solutions change its ρH easily when few drops of dil.Hcl is added**

A)Sodium phosphate + phosphoric acid
B)Sodium carbonate + carbonic acid
C)Sodium chloride + hydrochloric acid
D)Sodium citrate + citric acid

**8)In an aqueous solution $[x^-]=[Hx]$ $k_b$ of $x^-=10^{12}$. What is the ρH of the buffer solutions**

A)12 B) 2
C) 13 D) 1

$$\rho H = \rho ka + \log\frac{[x^-]}{[Hx]} = -\log 10^{-2} + \log 1 = 2$$

**9)The degree of dissociation of acetic acid is affected by**

A)Dilution
B)Adding Hcl
C)Adding NaoH
D)All the above

**10) To a saturated solution of Agcl little Hcl is added. Then**

A)Solubility of Agcl decreases
B)Solubility of Agcl increases
C)$K_S$ of Agcl increases
D)Solubility of Agcl does not change

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## Answer

| 01. | 02. | 03. | 04. | 05. | 06. | 07. | 08. | 09. | 10. |
|---|---|---|---|---|---|---|---|---|---|
| B | D | D | B | D | C | C | B | D | A |