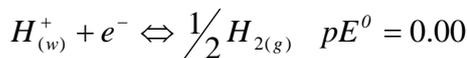
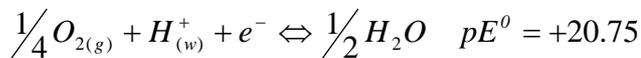
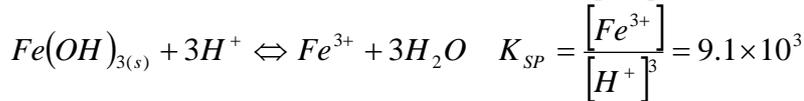
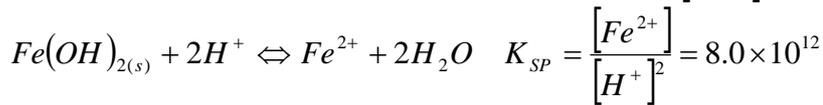
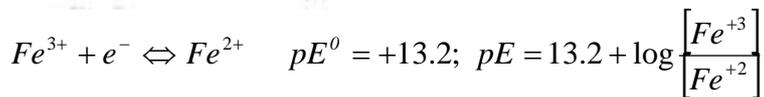
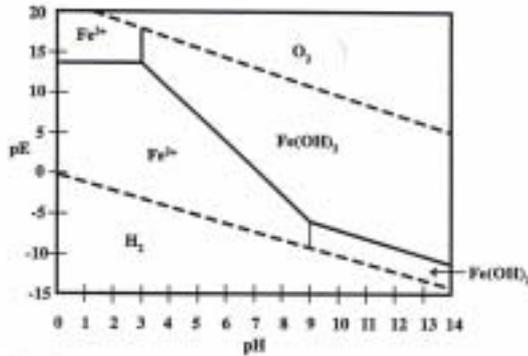


- 在自然環境的水中，若鹼度為  $1 \times 10^{-3}$  eq/L，請計算在(1) pH=7 及 (2)pH=10 時，在水中有那些主要且具鹼度的物種，其濃度分別為多少？另外，(3)請寫出該鹼度濃度的一般表示法。(20%)
- 假設有一含鐵的溶液，最大的溶解性總鐵濃度為 0.00001M，請證明以下圖形中每一條線。[註：自然水中的  $FeCO_3$  and  $FeS$ ，在此並不考慮。] (30%)



- 請填寫以下之空格(30%)

Classification of microorganisms by electron donor, electron acceptor, sources of cell carbon, and end products

Type of bacteria	Common reaction name	Carbon source	Electron donor (substrate oxidized)	Electron acceptor	Products
Aerobic heterotrophic	Aerobic oxidation				
Aerobic autotrophic	Nitrification				
	Iron oxidation				
	Sulfur oxidation				
Facultative heterotrophic	Denitrification				
Anaerobic heterotrophic	anoxic reaction				
	Acid fermentation				
	Iron reduction				
	Sulfate reduction				
	Methanogenesis				

4. 看圖說故事：(20%)

