

PYQSide

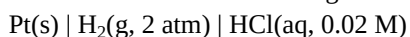
NEET ELECTROCHEMISTRY — NERNST EQUATION AND ITS APPLICATION — PYQS

Max. Marks: 36

Questions: 9

Section A (MCQ)

Q.1 Calculate emf of the half cell given below :



$$E^\circ_{\text{H}_2/\text{H}^+} = 0 \text{ V}$$

$$(\text{Given : } \frac{2.303RT}{F} = 0.059, \log 2 = 0.3010)$$

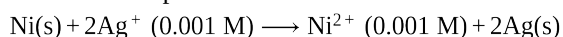
[NEET (UG) 2026]

- (1) -0.109 V (2) 0.109 V
(3) 0.035 V (4) -0.035 V

Scan or tap for the
full solution



Q.2 Find the emf of the cell in which the following reaction takes place at 298 K



$$(\text{Given that } E^\circ_{\text{cell}} = 1.05 \text{ V}, \frac{2.303 RT}{F} = 0.059 \text{ at } 298 \text{ K})$$

[NEET (UG) 2022]

- (1) 1.0385 V (2) 1.385 V
(3) 0.9615 V (4) 1.05 V

Scan or tap for the
full solution



Q.3 For a cell involving one electron $E^\circ_{\text{cell}} = 0.59 \text{ V}$ at 298 K, the equilibrium constant for the cell reaction is :

$$[\text{Given that } \frac{2.303 RT}{F} = 0.059 \text{ V at } T = 298 \text{ K}]$$

[NEET (UG) 2019]

- (1) 1.0×10^{30} (2) 1.0×10^{10}
(3) 1.0×10^2 (4) 1.0×10^5

Scan or tap for the
full solution



Q.4 In the electrochemical cell :

$\text{Zn} | \text{ZnSO}_4 (0.01 \text{ M}) || \text{CuSO}_4 (1.0 \text{ M}) | \text{Cu}$,
the emf of this Daniell cell is E_1 . When the concentration of ZnSO_4 is changed to 1.0 M and that of CuSO_4 changed to 0.01 M, the emf changes to E_2 . From the following, which one is the relationship between E_1 and E_2 ? (Given, $\frac{2.303RT}{F} = 0.059$)

[NEET 2017]

$$(1) E_1 < E_2 \quad (2) E_1 > E_2$$

$$(3) E_2 = 0 \neq E_1 \quad (4) E_1 = E_2$$

Scan or tap for the
full solution



Q.5 The pressure of H_2 required to make the potential of H_2 -electrode zero in pure water at 298 K is

[NEET 2016 (Phase 1)]

- (1) 10^{-10} atm (2) 10^{-4} atm
(3) 10^{-14} atm (4) 10^{-12} atm

Scan or tap for the
full solution



Q.6 A hydrogen gas electrode is made by dipping platinum wire in a solution of $\text{pH} = 10$ and by passing hydrogen gas around the platinum wire at one atm pressure. The oxidation potential of electrode would be

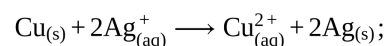
[NEET 2013]

- (1) 0.118 V (2) 1.18 V (3) 0.059 V (4) 0.59 V

Scan or tap for the
full solution



Q.7 The equilibrium constant of the reaction:



$$E^\circ = 0.46 \text{ V at } 298 \text{ K is}$$

[AIPMT 2007]

- (1) 2.0×10^{10} (2) 4.0×10^{10}
(3) 4.0×10^{15} (4) 2.4×10^{10}

Scan or tap for the
full solution



Q.8 The standard e.m.f. of a galvanic cell involving cell reaction with $n = 2$ is found to be 0.295 V at 25°C . The equilibrium constant of the reaction would be

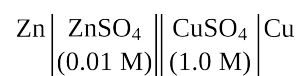
[AIPMT 2004]

- (1) 2.0×10^{11} (2) 4.0×10^{12}
(3) 1.0×10^2 (4) 1.0×10^{10}

Scan or tap for the
full solution



Q.9 The e.m.f. of a Daniell cell at 298 K is E_1 .



When the concentration of ZnSO_4 is 1.0 M and that of CuSO_4 is 0.01 M, the e.m.f. changed to E_2 . What is the relationship between E_1 and E_2 ?

[AIPMT 2003]

(1) $E_1 > E_2$

(2) $E_1 < E_2$

(3) $E_1 = E_2$

(4) $E_2 = 0 \neq E_1$

Scan or tap for the
full solution

**ANSWER KEY**

Ques.	1	2	3	4	5	6	7	8	9		
Ans.	2	3	2	2	3	4	3	4	1		