

PYQSide

NEET ELECTROCHEMISTRY — ELECTROCHEMICAL SERIES AND ITS APPLICATION — PYQS

Max. Marks: 24

Questions: 6

Section A (MCQ)

Q.1 At 298 K, the standard electrode potentials of Cu^{2+}/Cu , Zn^{2+}/Zn , Fe^{2+}/Fe and Ag^{+}/Ag are 0.34 V, -0.76 V, -0.44 V and 0.80 V, respectively.

On the basis of standard electrode potential, predict which of the following reaction cannot occur?

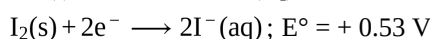
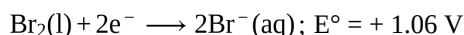
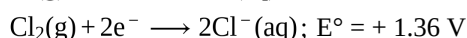
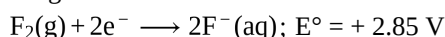
[NEET (UG) 2022]

- (1) $\text{CuSO}_4(\text{aq}) + \text{Zn}(\text{s}) \longrightarrow \text{ZnSO}_4(\text{aq}) + \text{Cu}(\text{s})$
- (2) $\text{CuSO}_4(\text{aq}) + \text{Fe}(\text{s}) \longrightarrow \text{FeSO}_4(\text{aq}) + \text{Cu}(\text{s})$
- (3) $\text{FeSO}_4(\text{aq}) + \text{Zn}(\text{s}) \longrightarrow \text{ZnSO}_4(\text{aq}) + \text{Fe}(\text{s})$
- (4) $2\text{CuSO}_4(\text{aq}) + 2\text{Ag}(\text{s}) \longrightarrow 2\text{Cu}(\text{s}) + \text{Ag}_2\text{SO}_4(\text{aq})$

Scan or tap for the full solution



Q.2 Standard reduction potentials of the half reactions are given below :



The strongest oxidising and reducing agents respectively are

[AIPMT 2012 (Mains)]

- (1) F_2 and I^-
- (2) Br_2 and Cl^-
- (3) Cl_2 and Br^-
- (4) Cl_2 and I_2

Scan or tap for the full solution



Q.3 A solution contains Fe^{2+} , Fe^{3+} and I^- ions. This solution was treated with iodine at 35 °C. E° for $\text{Fe}^{3+}/\text{Fe}^{2+}$ is +0.77 V and E° for $\text{I}_2/2\text{I}^-$ = 0.536 V. The favourable redox reaction is

[AIPMT 2011 (Mains)]

- (1) I_2 will be reduced to I^-
- (2) there will be no redox reaction
- (3) I^- will be oxidised to I_2
- (4) Fe^{2+} will be oxidised to Fe^{3+}

Scan or tap for the full solution



Q.4 Standard electrode potential of three metals X, Y and Z are -1.2 V, +0.5 V and -3.0 V respectively. The reducing power of these metals will be

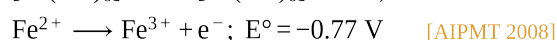
[AIPMT 2011 (Prelims)]

(1) $\text{Y} > \text{Z} > \text{X}$ (2) $\text{Y} > \text{X} > \text{Z}$ (3) $\text{Z} > \text{X} > \text{Y}$ (4) $\text{X} > \text{Y} > \text{Z}$

Scan or tap for the full solution



Q.5 On the basis of the following E° values, the strongest oxidizing agent is

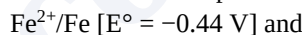


- (1) Fe^{3+}
- (2) $[\text{Fe}(\text{CN})_6]^{3-}$
- (3) $[\text{Fe}(\text{CN})_6]^{4-}$
- (4) Fe^{2+}

Scan or tap for the full solution



Q.6 Standard electrode potentials are



If Fe^{2+} , Fe^{3+} and Fe blocks are kept together, then

[AIPMT 2001]

- (1) Fe^{3+} increases
- (2) Fe^{3+} decreases
- (3) $\text{Fe}^{2+}/\text{Fe}^{3+}$ remains unchanged
- (4) Fe^{2+} decreases.

Scan or tap for the full solution



ANSWER KEY

Ques.	1	2	3	4	5	6				
Ans.	4	1	3	3	1	2				