

Redox Reactions

JEE Main 2020 Chapterwise

Questions with Answer Keys

Chemistry

Q1 JEE Main 2020 - 2 September (Morning)

While titrating dilute HCl solution with aqueous NaOH, which of the following will not be required?

- (A) Pipette and distilled water
- (B) Clamp and phenolphthalein
- (C) Burette and porcelain tile
- (D) Bunsen burner and measuring cylinder

Q2 JEE Main 2020 - 3 September (Evening)

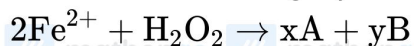
The volume (in mL) of 0.1 N NaOH required to neutralise 10mL of 0.1N phosphinic acid is

Q3 JEE Main 2020 - 4 September (Morning)

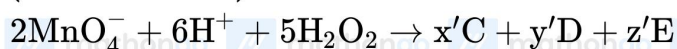
A 20.0 mL solution containing 0.2 g impure H_2O_2 reacts completely with 0.316g of KMnO_4 in acid solution. The purity of H_2O_2 (in %) is (mol. wt. of $\text{H}_2\text{O}_2 = 34$; mol. wt. of $\text{KMnO}_4 = 158$)

Q4 JEE Main 2020 - 4 September (Evening)

Consider the following equations:



(in basic medium)



(in acidic medium)

The sum of the stoichiometric coefficients

x, y, x', y' and z' for products A, B, C, D and E,

respectively, is

Q5 JEE Main 2020 - 5 September (Evening)

The volume, in mL, of 0.02MK₂Cr₂O₇ solution required to react with 0.288g of ferrous oxalate in acidic medium is

(Molar mass of Fe = 56gmol⁻¹)

Q6 JEE Main 2020 - 6 September (Morning)

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Potassium chlorate is prepared by the electrolysis of KCl in basic solution

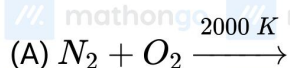


If only 60% of the current is utilized in the reaction, the time (rounded to the nearest hour) required to produce 10g of KClO_3 using a current of 2A is

(Given : $F = 96,500\text{Cmol}^{-1}$; molar mass of $\text{KClO}_3 = 122\text{gmol}^{-1}$)

Q7 JEE Main 2020 - 7 January (Evening)

Amongs the following which is redox reaction ?

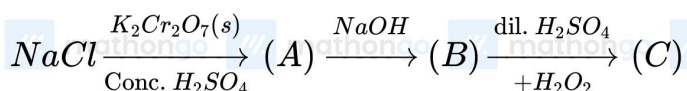


(B) Formation of O_3 from O_2

(C) Reaction between NaOH and H_2SO_4

(D) Reaction between AgNO_3 and NaCl

Q8 JEE Main 2020 - 7 January (Evening)



Determine total number of atoms in per unit formula of (A), (B) & (C)

Q9 JEE Main 2020 - 8 January (Morning)

The strength of an aqueous NaOH solution is most accurately determined by titrating :

(Note : consider that an appropriate indicator is used)

(A) NaOH in burette and oxalic acid in conical flask

(B) NaOH in burette and concentrated H_2SO_4 in conical flask

(C) NaOH in volumetric flask and concentrated H_2SO_4 in conical flask

(D) Oxalic acid in burette and NaOH in conical flask

Q10 JEE Main 2020 - 9 January (Morning)

The compound that cannot act both as oxidising and reducing agent is :

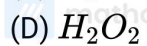
(A) H_2SO_3

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Chemistry

Answer Key

Q1 (D)

Q2 (10)

Q3 (85)

Q4 (19)

Q5 (50)

Q6 (11)

Q7 (A)

Q8 (18)

Q9 (B)

Q10 (C)

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