Experiment 4 -CH110 - 2020 Batch

Quiz- 10 marks - Time - 10 mins

1. Please write your roll number?

2001ME48

2. Please write your name?

Prateek Kumar

3. Which department you belong to?

ME

4. What are the oxidation states of O and Na in (1 Point)

Na_2O_2?

- $O = -2$ and $Na = +2$
- $O = +2$ and $Na = -2$
- $O = -1$ and $Na = +1$
- $O = +1$ and $Na = -1$

5. Which element is oxidized in the following reaction, and how does its oxidation number change?
(1 Point)

$2MnO_4^-(aq) + 5HSO_3^-(aq) + H^+(aq) \rightarrow 2Mn^{2+}(aq) + 5SO_4^{2-}(aq) + 3H_2O(l)$

- ○ $Mn\ its\ oxidation\ number\ changes\ from\ -1\ to\ +2$
- ○ $Mn\ its\ oxidation\ number\ changes\ from\ +7\ to\ +2$
- ○ $S\ its\ oxidation\ number\ changes\ from\ -1\ to\ -2$
- ◉ $S\ its\ oxidation\ number\ changes\ from\ +4\ to\ +6$

6. You are asked to prepare 250 mL of 0.25 N solution of acetic acid (molecular weight 60 g/mol). How much acetic acid will you need?
(1 Point)

- ○ $60\ g$
- ○ $15\ g$
- ◉ $3.75\ g$
- ○ $1.875\ g$

7. The standardization of sodium thiosulfide with potassium dichromate can be represented by the following reaction. How much volume of 0.25 N thiosulfide is required to for the end point of titration with 10 mL of 0.1 M dichromate solution.
(1 Point)

$3Na_2S_2O_3 + K_2Cr_2O_7 + 8HCl \rightarrow 3S + 3Na_2SO_4 + 2CrCl_3 + 2KCl + 4H_2O$

- ○ $4\ mL$
- ○ $12\ mL$
- ○ $16\ mL$
- ◉ $24\ mL$

8. Identify the oxidizing agent of the following reaction
(1 Point)

$3Br_2 + 2AlI_3 \rightarrow 2AlBr_3 + 3I_2$

- [x] Br_2
- [ ] AlI_3
- [ ] I_2
- [ ] $None$

9. What are the oxidation states of Ca and C in
(1 Point)

CaC_2?

- [ ] $Ca = +8 \; and \; C = -4$
- [ ] $Ca = +4 \; and \; C = -2$
- [x] $Ca = +2 \; and \; C = -1$
- [ ] $Ca = 0 \; and \; C = 0$

10. Which oxide does not react as a reducing agent?
(1 Point)

- [ ] NO
- [ ] NO_2
- [ ] N_2O
- [x] N_2O_5

11. You are asked to prepare 100 mL of 0.25 N solution of $KMnO_4$ (molecular weight 158 g/mol) at pH 8. How much $KMnO_4$ will you need?
(1 Point)

- 1.975 g
- [x] 1.32 g
- 0.99 g
- 0.79 g

12. What will be end point reading of a titration of 25 ml 0.1 N of oxalic acid with 0.1 M potassium permanganate in acidic medium.
(1 Point)

- 25 mL
- 12.5 mL
- [x] 5 mL
- 2.5 mL

13. You are asked to prepare 50 mL of 0.1 N solution of H_3PO_3 (molecular weight 82 g/mol). How much H_3PO_3 will you need?
(1 Point)

- 0.41 g
- [x] 0.205 g
- 0.137 g
- 1.23 g

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