Đề 4

a) $Al + HNO_3 \rightarrow Al(NO_3)_3 + N_2O + H_2O$

C khử C Oxi hóa

$Al^0 \rightarrow Al^{+3} + 3e$ | x 4 Q trình khử

$N^{+5} + 4e \rightarrow N^{+1}$ | x 3 Q trình Oxi hóa

$Al + 6HNO_3 \rightarrow Al(NO_3)_3 + 3NO_2 + 3H_2O$

b) $FeSO_4 + KMnO_4 + H_2SO_4 \rightarrow Fe_2(SO_4)_3 + K_2SO_4$

C khử C' Oxi hóa

$+ MnSO_4 + H_2O$

$2Fe^{+2} + 2e \rightarrow Fe_2^{+3}$ | x 5e Q trình khử

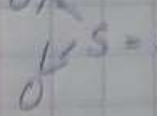
$Mn^{+7} + 5e \rightarrow Mn^{+2}$ | x 2e Q trình Oxi hóa

$10FeSO_4 + 2KMnO_4 + 8H_2SO_4 \rightarrow 5Fe_2(SO_4)_3 + K_2SO_4 + MnSO_4 + 8H_2O$

Câu 2

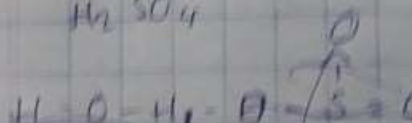
$Mg_3(PO_4)_2$

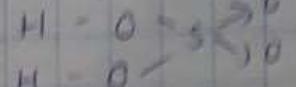
SO_3



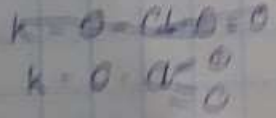
C_2H_6

H_2SO_4

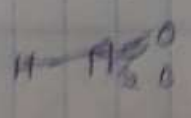




$KClO_3$



HNO_2



b) NaCl

PT hình thành ion

$Na \rightarrow Na^{+1} + 1e$

$1s^2 2s^2 2p^6 3s^1$

$Cl + 1e \rightarrow Cl^{-1}$

$1s^2 2s^2 2p^6 3s^2 3p^5$

P + hoá học

$2Na + Cl_2 \rightarrow 2NaCl$

K_2O

PT hình thành ion

PT hình thành ion

$K + 1e \rightarrow K^{+1}$ $\quad 1s^2 2s^2 2p^6 3s^2 3p^6 4s^1$

$O + 2e \rightarrow O^{-2}$ $\quad 1s^2 2s^2 2p^4$

PT H/H

$2K + O \rightarrow K_2O$

$4K + O_2 \rightarrow 2K_2O$

$4 \times 1e$

Câu 3

Cấu hình M $1s^2 2s^2 2p^6 3s^2$

X $1s^2 2s^2 2p^6 3s^2 3p^5$

b) M có vị trí là 12 vì Z = 12

X Cl 17 vì Z = 17

c) Pt tạo thành ion

$Fe \rightarrow Fe + 3e$

$1s^2 2s^2 2p^6 3s^2 3p^6 3d^6 4s^2$

Câu 4

9, 11, 17, 19, 20

Đề 5

$K_2\overset{+6}{Cr_2}O_7 + K\overset{-1}{I} + H_2SO_4 \rightarrow K_2S_4 +$

C. Oxi hóa $\overset{0}{I_2}$ Chất khử

$Cr_2(SO_4)_3 + I_2 + H_2O$

$2\overset{+6}{Cr} + 6e \rightarrow \overset{+3}{Cr_2}$ | x 2 Q+ Oxi hóa

$2\overset{-1}{I} \rightarrow \overset{0}{I_2} + 2e$ | x 6 Q+ khử

$K_2Cr_2O_7 + 7H_2SO_4 + 6KI + K_2Cr_2O_7 \rightarrow Cr_2(SO_4)_3 + 3I_2 +$

D) $\overset{+2}{Fe}CO_3 + H_2\overset{+6}{S}O_4 \rightarrow \overset{+3}{Fe_2}(SO_4)_3 + (CO_2)\overset{+4}{S}O_2$

Chất khử C. Oxi hóa

$+ H_2O$

$2\overset{+2}{Fe} \rightarrow \overset{+3}{Fe_2} + 2e$ | x 2 Q+ khử

$\overset{+6}{S} + 2e \rightarrow \overset{+4}{S}$ | x 1 Q+ Oxi hóa

Câu 2

$Al_2(SO_4)_3$

Al - O - S = O

Al - O - S = O

C_2H_4

H H

C - C

H H

SO_2

O C - S = O

HNO_3

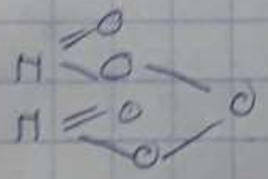
H - O - N = O

(↓ O)

$KHCO_3$

K - H - O -

N_2O_5



Câu 2b) $MgCl_2$

P+ hình thành ion

$Mg \rightarrow Mg^{2+} + 2e$

$1s^2 2s^2 2p^6 3s^2$ [Ne]

$Cl + 1e \rightarrow Cl^-$

$1s^2 2s^2 2p^6 3s^2 3p^5$ [Ar]

$Mg^{2+} + 2Cl^-$

P+ H I H I

$2Mg + Cl_2 \rightarrow 2MgCl_2$

2 x 1e

Na_2O

PT hình thành ion

$Na \rightarrow Na^{+1} + 1e$

$1s^2 2s^2 2p^6 3s^1$ [Ne]

$O + 2e \rightarrow O^{2-}$

$1s^2 2s^2 2p^4$ [Ne]

PT HH-1 $2Na^+ + O^{2-} \rightarrow Na_2O$

2x

PT HHOX

$4Na + O_2 \rightarrow 2Na_2O$

4 x 1e

Câu 3

a) CH M $1s^2 2s^2 2p^6 3s^2 3p^6 4s^1$

M là kali

X là oxi X $1s^2 2s^2 2p^4$

b) Vị trí của M là 19 vì Z = 19

X là 8 vì Z = 8

c) Giống câu 3c đề 4

Câu 4

~~7~~ 9, 7, 17, 15, 12, 19