Chemistry 141 Name

Dr. Cary Willard

Quiz 4A (20 points) February 17, 2011

1. (5 points) Assign oxidation states to each atom in the following species
   1. NaClO2 Na Cl O
   2. MnO4-2 Mn O
2. (4 points) For the following balanced redox reaction identify the elements oxidized and reduced as well as the oxidizing and reducing agents

FeS + 3 KNO3 + 2 H2SO4 🡪 3NO + K2SO4 + Fe(NO3)3 + 2H2O

Element oxidized Element reduced

Oxidizing agent Reducing agent

1. (4 points) Balance the following half reaction in basic solution.

CrO4-2(aq) 🡪 CrO2-1(aq)

1. (6 points) Balance the following reaction in acid.

I2 + OCl-1 🡪 IO3-1 + Cl-1

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Quiz 4B (20 points) February 17, 2011

1. (5 points) Assign oxidation states to each atom in the following species
   1. Sr(IO3)2 Sr I O
   2. ClO4-1 Cl O
2. (4 points) For the following balanced redox reaction identify the elements oxidized and reduced as well as the oxidizing and reducing agents

5H2C2O4+ 2KMnO4+ 3H2SO4🡪 K2SO4 + 10CO2 + 2 MnSO4 + 8 H2O

Element oxidized Element reduced

Oxidizing agent Reducing agent

1. (4 points) Balance the following half reaction in basic solution.

CrO2-1(aq) 🡪 CrO4-2(aq)

1. (6 points) Balance the following reaction in acid.

Cr+3 + BiO3-1 🡪 Cr2O7-2 + Bi+3