**Name: ……… ….. ID: ……………………. Sec: ……**

1. What is the oxidation number for each of the following elements? (1\* 3 = 3 points)

(e.n.’s: C = 2.5, O = 3.5, H = 2.1)

a. Co in Co (NO3)3 \_\_\_\_\_\_\_\_

b. O in HCHO \_\_\_\_\_\_\_\_

c. I in IO4- \_\_\_\_\_\_\_\_

2. Draw energy diagrams of exothermic and endothermic reaction with low activation energy. (4 points)

3. What kind of reaction is shown below (between hydrogen peroxide and magnesium sulfite) (1+2+2 = 5 points)

1. H2O2(aq) + MgSO3(aq) MgSO4(aq) + H2O

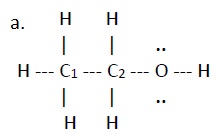
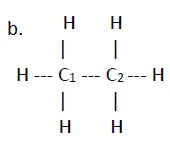
Precipitation gas formation acid-base neutralization redox reaction

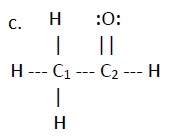
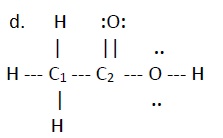
b. Write the total ionic equation for the reaction shown in Question a.

c. Now convert the total ionic equation in Question b into its net ionic equation.

4. Write the formula for the precipitate that forms when a solution of Cu(NO3)2 is added to a solution of NaOH. (2 points)

5. Explain which of the compounds represent the MOST OXIDIZED and MOST REDUCED class? (3+3 = 6 points)

Answer with the number of the compound:

Most oxidized:

Most reduced:

1. (5 points) Examine the figure and below answer the following questions



1. What type of reaction is this ......................
2. What is indicated by the letter A .....................
3. What is indicated by the letter B .....................
4. What is indicated by the letter C .....................
5. What is indicated by the letter D .....................