**Reactions**

Unit 8

**Practice Free Response 1**

**Directions:** The suggested time is about 15 minutes for answering the constructed response section of the chemistry test.  The parts within a question may not have equal weight. For calculations, show all your work in the spaces provided after each part. Pay particular attention to the proper use of units.  Be sure your final answer is rounded to the correct number of significant figures.  Make sure your work is legible. Illegible work will receive a grade of zero.

**Question 1 [4 POINTS]**

In a lab experiment, Parvati completes the combustion of 23.2 g of dicarbon tetrahydride in the presence of 18.6 g of oxygen. Her data can be seen in the graphs below.

1. Write and balance the equation for this reaction. **[3 POINTS]**
2. Which substance is the limiting reactant? How do you know? **[2 POINTS]**
3. Which substance is the excess reactant? How do you know? **[2 POINTS]**

**CONTINUED ON REVERSE SIDE ☞**

1. What is the theoretical yield, in grams, of carbon dioxide for Parvati’s experiment? **[1 POINT]**
2. Parvati’s twin, Padma, tries to replicate Parvati’s reaction of 23.2 g of dicarbon tetrahydride with 18.6 g of oxygen. However, when Padma does it, only 0.21 **moles** of carbon dioxide are formed. What is Padma’s percent yield? **[2 POINTS]**