CHEMISTRY

Part B

Time—50 minutes

NO CALCULATORS MAY BE USED FOR PART B.

Answer Question 4 below. The Section II score weighting for this question is 15 percent.

4. Write the formulas to show the reactants and the products for any FIVE of the laboratory situations described below. Answers to more than five choices will not be graded. In all cases, a reaction occurs. Assume that solutions are aqueous unless otherwise indicated. Represent substances in solution as ions if the substances are extensively ionized. Omit formulas for any ions or molecules that are unchanged by the reaction. You need not balance the equations.

   Example: A strip of magnesium is added to a solution of silver nitrate.

Ex.	$Mg + Ag^+ \rightarrow Mg^{2+} + Ag$

   (a) A strip of zinc is placed in a solution of nickel(II) nitrate.

   (b) Solid aluminum hydroxide is added to a concentrated solution of potassium hydroxide.

   (c) Ethyne (acetylene) is burned in air.

   (d) Solid calcium carbonate is added to a solution of ethanoic (acetic) acid.

   (e) Lithium metal is strongly heated in nitrogen gas.

   (f) Boron trifluoride gas is added to ammonia gas.

   (g) Sulfur trioxide gas is bubbled into a solution of sodium hydroxide.

   (h) Equal volumes of 0.1 *M* solutions of lead(II) nitrate and magnesium iodide are combined.