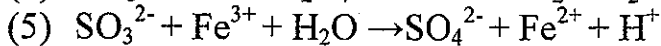
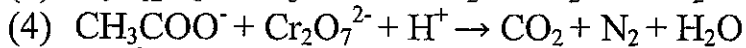
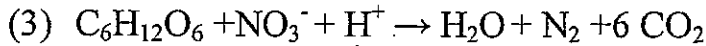
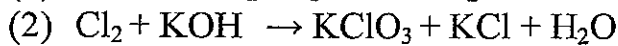
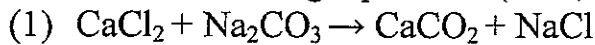


※ 考生請注意：本試題不可使用計算機。請於答案卷(卡)作答，於本試題紙上作答者，不予計分。

1. Balance the following equations: (25%, 5% for each)



2. Please use chemical reaction equations to explain how the NOx and CFC to destroy the stratospheric ozone layer respectively? (15%)

3. Chlorination is the major disinfection method of tap water, please use figure and reactive equation to interpret what are (1) Breakpoint Chlorination? (2) Free and Combined Chlorine Residuals? (10%) In addition, please present two analytical methods to measure the Free and Combined Chlorine Residuals in water samples.(10%)

4. Please describe the formation mechanism of secondary PM2.5? (20%)

5. What is the function of the NaOH sometimes used in preparing the thiosulfate solution used for dissolved oxygen measurement? (10%)

6. What is the difference between orthophosphates, polyphosphates, and organic phosphorus? (6%) In which form must the phosphorus be for colorimetric analysis? (4%)