Questions:

1 The titration reaction in this experiment is between ascorbic acid and iodine, can we directly use iodine to prepare an iodine standard solution, then do the titration with the iodine solution? Why or why not?

2 Why is NaHCO3 added when preparing the KI solution.

3 Suppose a sample needs to consume 0.02m mol KIO3 to reach the endpoint, theoretically, the solution must have at least how much grams of KI?

4 A student is supposed to add 5 mL KI solution into the sample, but, due to a mistake, the student added 5.1 mL KI solution. Will the mistake affect the calculated concentration of ascorbic acid? If yes, higher or lower? Explain.

5 Describe in detail the steps of a quantitative transfer. In this experiment, you are required to weight your sample in a 50 mL beaker and quantitatively transfer and dilute it in a 10.00 mL volumetric flask. Be specific when describing the quantity of water used and the tools you will need.