Uva Wellassa University of Sri Lanka
Faculty of Science and Technology
Department of Science and Technology
100 Level 1st Semester Examination – July/August 2016
SCT 131-2 General Chemistry
Part A

Uva Wellassa University

2. Use a separate booklet to answer the following question.

The K_{sp} for CaF_2 is 3.9×10^{-11} at 25 °C. Assuming that CaF_2 dissociate into Ca^{2+} and F^- upon dissolving in water and that there are no other important equilibria affecting CaF_2 solubility

a. Calculate the solubility of CaF_2 in grams per litter.
(Formula weight of CaF_2 is 78.1 g mol^{-1})

(03 Marks)

b. Calculate the molar solubility of CaF_2 at 25 °C in a solution that contains
   i. 0.010 M $Ca(NO_3)_2$ (02 Marks)
   ii. 0.010 M NaF (02 Marks)

c. Provide the reason for different solubility values of CaF_2 in pure water, in 0.010 M $Ca(NO_3)_2$ and in 0.010 M NaF. (03 Marks)