General expectations when prepare for the exam

You should understand the concepts of data assimilations and the analysis/assimilation methods that we discussed in the course. You should know the strength and weaknesses of these schemes, and be able to compare and contrast any two of these schemes, including the solution accuracy, physical meaning, practical implementation issues and cost.

You are not expected to memorize or derive in the exam solutions of various analysis schemes. But you should understand these solutions and the related equations, including the use of standard notations. You should be to interpret the meaning of each terms and variables in the equations, and their effect and role in the solutions.

You should know the procedure by which various analysis solutions are obtained, and be able to given equations to simple problems. You should be able to perform basic matrix operations.