Q1. Let $x = $ (last digit of your index number)$\text{Mod } 3 + 1$. Select matrix number x and call it A.

$$\begin{pmatrix} -11 & -10 & 5 \\ 5 & 4 & -5 \\ -20 & -20 & 4 \end{pmatrix}, \begin{pmatrix} 1 & -3 & 3 \\ 3 & -5 & 3 \\ 6 & -6 & 4 \end{pmatrix}, \begin{pmatrix} 4 & 1 & -1 \\ 2 & 5 & -2 \\ 1 & 1 & 2 \end{pmatrix}$$

Write the first two steps of the Jacobi or Gauss Siedel method to solve $AX = B = (1,2,3)^T$.

Also as write the above system as $X_{k+1} = MX_k + N$ and find $\|M\|_1$ and $\|M\|_\infty$.

Solution:

These topics will not be tested at the final.

However you must know how to calculate $\|A\|_1$ and $\|A\|_\infty$ when a matrix A is given.

Q2. Estimate $\rho(M)$ using the power method or QR method.

Solution:
These topics will not be tested at the final.
However see MID1B-Q2-Note for the QR factorization.