**Exam 1**                    **Linear Algebra**                    **27–03–2013**

1. Solve the system of equations by finding matrix inverse.

$$\begin{cases} x & -3y & = 11 \\ 2x & +y & = 1 \end{cases}$$

2. Solve the system of equations using Cramer's rule.

$$\begin{cases} x & -3y & -4z & = 0 \\ 2x & +7y & & = 3 \\ x & +2y & +z & = 5 \end{cases}$$

3. Solve the system of equations using Gauss-Jordan algorithm.

$$\begin{cases} a & +2b & +3c & -d & = 1 \\ & +2b & -4c & +2d & = 2 \\ a & +b & +5c & +d & = 3 \end{cases}$$

4. Evaluate $\det A$ using elementary row operations.

$$A = \begin{bmatrix} 2 & 2 & 4 & 10 \\ 1 & 4 & 3 & 9 \\ 1 & 4 & 1 & 11 \\ 0 & 3 & 1 & 5 \end{bmatrix}$$

–Amin Witno