For learning (and exam) purposes, you should be able to give definitions of the following terms.

Notes: 1) while a paraphrase of a definition is ok, it must be correct. Sometimes students, when trying to paraphrase, actually misstate the definition making it incorrect. The safest things, with definitions, is to memorize them as given.

> *2) If a definition of a term is asked for, then actually give the definition, NOT some other statement equivalent to the definition.*
>
> *For example, if asked: the $n \times n$ matrix A is invertible means: _____ then, don't answer "A has n pivot positions." It's true that statement is equivalent to saying A is invertible, but it wasn't the definition of invertibility.*

Definitions (note that there is a Glossary in the appendix of the textbook, starting on p. A7, where terms and definition are collected together.)

1) determinant of an $n \times n$ matrix (p. 165)
2) (i, j) cofactor of $n \times n$ matrix A (p. 165)
3) subspace of a vector space (p. 193)
4) the null space of a matrix (p. 199) / the kernel of a linear transformation T (p. 204)
5) the column space of a matrix (p. 201)/ the range of a linear transformation T
6) basis for a subspace of a vector space (p. 209)
7) the coordinate vector of $\boldsymbol{x}$ with respect to a basis $\mathcal{B}$ (p. 216)
8) isomorphism (p. 220)
8) the dimension of a vector space (p. 226)
9) the rank of a matrix A p. 283
10) eigenvector of a matrix (Notes on *Introduction to Diagonalization*)
11) eigenvalue of a matrix A (Notes on *Introduction to Diagonalization*)
12) diagonalizable matrix (Notes on *Introduction to Diagonalization*)

You should be able also

1) to state how EROs affect determinants
2) to state how det A is related to the pivots in an echelon for U obtained by row swaps and row replacements only (p. 171)
3) to state the Spanning Set Theorem (p. 210)
4) to describe/find bases for Nul(A) and col(A) (pp. 211-212)
5) to describe the matrices that you multiply by to change from $\mathcal{B}$-coordinates to standard coordinates, and from standard coordinates to $\mathcal{B}$-coordinates (p. 219)
6) to state a theorem about expanding a set of vectors to a basis (p. 227)
7) to state the Basis Theorem (p. 227)

8) to state the Rank Theorem (p. 233) (using rank as defined in terms of the column space)
9) to state a theorem about when a square matrix is diagonalizable (Notes on *Introduction to Diagonalization*)

These lists just mention items things you might be asked directly. It's certainly not a list of every thing you need to know or every skill you should have.