LESSON 5631-2

PRACTICAL MATRIX THEORY FOR ENGINEERS

EXAMINATION

Mail in this and all examinations promptly, as they are completed. Then start on the next lesson.

1. The symbol $[A]$ denotes a
   (1) matrix. (3) equation.
   (2) determinant. (4) complex number.

2. For a mn matrix (m rows and n columns) when $m = n$, the matrix is said to be
   (1) transposed. (3) square.
   (2) not square. (4) rectangular.

3. The matrix $[0 \quad 2 \quad 3]$ is a
   (1) row matrix. (3) unit matrix.
   (2) column matrix. (4) null matrix.

4. The number of columns in a column matrix is
   (1) three. (2) two. (3) one. (4) zero.

5. In the matrix $[A] = \begin{bmatrix} 1 & 6 \\ 5 & 2 \\ 0 & -3 \end{bmatrix}$ the element a_{32} is
   (1) 1. (2) 0. (3) 2. (4) -3.

6. What is the impedance matrix $[Z]$ for the following set of simultaneous equations obtained from an electrical network?

$$Z_{11}I_1 + Z_{12}I_2 = V_1$$
$$Z_{21}I_1 + Z_{22}I_2 = V_2$$