### ASSIGNMENT 02 (Chater 3) Linear Algebra

### Subject: MAE101

### Name of student:

1. Solve the exercises yourself and submit your solutions in LMS before deadlines (do not send via email).

2. Each student is required to represent solutions of at least 2 of the exercises in lecture classes

**Chapter 3**

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|  | **Content** | **Answers by student** |
| 1 | Write down formula to compute the determinant of matrix of order 2 and 3. |  |
| 2 | How does the determinant change when applying elementary operations:  a) Interchange two rows (columns)  b) Multiply a scalar to a row (column)  3) Add to a row (column) another row (column) after multiplying with one scalar. |  |
| 3 | How to compute the power of diagonal matrix |  |
| 4 | What is the matrices of rotation, reflection and projection in the plane ? | See Sec 2.6 |
| 5 | What is the eigenvalues, eigenvector and characteristic polynomial of a square matrix? Give an example. |  |
| 6 |  |  |
| 7 |  |  |
| 8 |  |  |
| 9 |  | Solve at least 3 |
| 10 |  | Solve at least 2. See Theorem 5 in page 143 |
| 11 |  | Solve at least 4 |