

**KFUPM – Department of Mathematics and Statistics – Term 141**

**MATH 550**

**Exam # 2 (Due by December 14, 2014)**

NAME: \_\_\_\_\_ ID: \_\_\_\_\_

**Solve the following Exercises.**

| Serial      | Exercise    |          |             |
|-------------|-------------|----------|-------------|
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| Exercise 2  | Exercise 8  | Page 205 | Section 6.4 |
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| Exercise 7  | Exercise 4  | Page 231 | Section 7.1 |
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| Exercise 9  | Exercise 20 | Page 243 | Section 7.2 |
| Exercise 10 | Exercise 2  | Page 249 | Section 7.3 |

**Exercise 11. True or False (Justify).** T a diagonalizable linear operator on a finite-dimensional vector space  $V$ . Then every linear operator which commutes with T is a polynomial of T.

**Exercise 12. True or False (Justify).** If a diagonalizable operator has only the characteristic values 0 and 1, then it is a projection.