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|  | Lecture Notes | 27th May 2023 |

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* Laplace Transformations

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**Notice:**

**Midterm – 2**

* 1 Question: Undetermined Coefficient - Application
* 1 Question: Taylor Series - Similar to Homework
* 2 Questions: Power Series - Similar to the last question of Homework
* 2 Questions: Laplace - 1 Simple Laplace Transformation, 1 ODE Laplace Application

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**Theory:**

Let

Laplace Transformation of is:

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**Find Laplace Transform of the following**:

Example 1:

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Example 2:

**-----------------------------------------------------------------------------------------------------------------------------**

Example 3:

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Homework:

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**Laplace Formulas:**

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|  |  |
|  |  |

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Example 1:

Example 2:

**------------------------------------------------------------------------------------------------------------------------------**

**Remark:**

Laplace is Linear Transformation:

**------------------------------------------------------------------------------------------------------------------------------**

Example 1:

Example 2:

**------------------------------------------------------------------------------------------------------------------------------**

**Laplace Inverse** **:**

**------------------------------------------------------------------------------------------------------------------------------**

Example 1:

Example 2:

**------------------------------------------------------------------------------------------------------------------------------**

**Remark:**

Laplace is Linear Transformation:

**------------------------------------------------------------------------------------------------------------------------------**

Example 1:

Example 2:

Example 3:

**------------------------------------------------------------------------------------------------------------------------------**

**Application**:

ODE by Laplace Transformations:

**------------------------------------------------------------------------------------------------------------------------------**

Example 1:

Example 2:

Example 3:

**-----------------------------------------------------------------------------------------------------------------------------**

Example 1:

**-----------------------------------------------------------------------------------------------------------------------------**

Example 2:

**-----------------------------------------------------------------------------------------------------------------------------**