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# Faculty of Engineering Technology

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| **Department** | **: Mathematics and Statistics** |
| **Programme** | **: B. Tech. (All Branches)** |
| **Semester / Batch** | **: 2 / 2023** |
| **Course Code** | **: MTF111A** |
| **Course Title** | **: Engineering Mathematics - 2** |

**Tutorial – 5: Laplace transform of various functions and Inverse Laplace transform**

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| Sr. No. | **Questions** |
| 1 | Find the Laplace transform of the following **periodic function**:   1. Soln: 2. Soln: 3. and Soln. 4. and   Ans:   1. and   Ans: |
| 2 | Determine the Laplace transformation of the following functions using the Laplace transformation of **unit step function**:      Soln:      Soln:  Soln:      Soln: |
| 3 | Determine the Laplace transformation of the following functions using the Laplace transformation of **Dirac delta function**:   1. Soln: 2. Soln: |
| 4 | Determine the **inverse Laplace transform** of the following functions using inverse Laplace transformation of **some standard functions**:   1. Soln: 2. Soln: 3. Soln: 4. Soln: |
| 5 | Determine the **inverse Laplace transform** of the following functions by **applying partial fractions:**   1. Soln: 2. Soln: 3. Soln: 4. Soln: |
| 6 | Determine the **inverse Laplace transforms** of the following functions using the **properties of inverse Laplace transforms**:   1. Soln: 2. Soln: |
| 7 | Determine **the inverse Laplace transforms** of the following functions using **Unit step function:**   1. Soln:   Soln: |
| 8 | Solve the following differential equation by using Laplace transformation   1. Ans. 2. , Ans. 3. , Ans. 4. , Ans. 5. , Ans. |