Reg.No. \_\_\_\_\_\_\_\_\_\_\_\_

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**End Semester Examination – Nov/Dec – 2018**

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| **Code : MATHEMATICAL TRANSFORMS** |  | **Duration :** | **3hrs** |
| **Sub. Name : 17MA2003** |  | **Max. marks :** | **100** |

**ANSWER ALL QUESTIONS (5 x 20 = 100 Marks)**

|  |  |  |  |  |
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| **Q. No.** | **Sub Div.** | **Questions** | **Course**  **Outcome** | **Marks** |
| 1. | a. | Find . | CO1 | 10 |
| b. | Evaluate, using Laplace Transform where *a* and*b* are constants. | CO1 | 10 |
| (OR) | | | | |
| 2. | a. | Find . | CO1 | 10 |
| b. | Find the Laplace Transform of the Periodic function  with periodicity 2where . | CO1 | 10 |
|  |  |  |  |  |
| 3. | a. | Find the inverse Laplace transform of . | CO2 | 10 |
| b. | Using Convolution theorem, find . | CO2 | 10 |
| (OR) | | | | |
| 4. | a. | Evaluate . | CO2 | 10 |
| b. | Solve  given  using Laplace transform. | CO6 | 10 |
|  |  |  |  |  |
| 5. | a. | Find the Fourier transform of. Hence evaluate . | CO3 | 10 |
| b. | Find the Fourier sine and cosine transform of ,n>0. | CO3 | 10 |
| (OR) | | | | |
| 6. | a. | Using Parseval’s identity, Prove that  (i) .  (ii) . | CO3 | 10 |
| b. | Find the Fourier sine transform of . Hence show that | CO3 | 10 |
| 7. | a. | Find . | CO4 | 10 |
| b. | Find and . | CO5 | 10 |
| (OR) | | | | |
| 8. | a. | Find . | CO4 | 7 |
| b. | Find . | CO4 | 6 |
| c. | Find . | CO4 | 7 |
|  | | **Compulsory**: |  |  |
| 9. | a. | Using partial fraction method find . | CO5 | 5 |
| b. | Using residue method find | CO5 | 5 |
| c. | Solve given  using Z-transforms. | CO6 | 10 |