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



**UNIVERSITY**

(Karunya Institute of Technology & Sciences)

(Declared as Deemed-to-be University under Sec.3 of the UGC Act, 1956)

**End Semester Examination – Nov/Dec– 2017**

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|  |  |  |  |
| **Code :** | **14MA2003** | **Duration :** | **3hrs** |
| **Sub. Name :** | **MATHEMATICAL TRANSFORMS** | **Max. marks :** | **100** |

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

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Q. No.** | **Sub Div.** | **Questions** | **Course**  **Outcome** | **Marks** |
| 1. | a. | Find. | CO1 | 10 |
| b. | Find. | CO1 | 10 |
| (OR) | | | | |
| 2. | a. | Find by using Laplace transform. | CO1 | 10 |
| b. | Find the Laplace transform of the triangular wave function of period 2a given by | CO1 | 10 |
|  |  |  |  |  |
| 3. | a. | Using convolution theorem, find . | CO1 | 7 |
|  | b. | Find . | CO1 | 5 |
|  | c. | Find . | CO1 | 8 |
| (OR) | | | | |
| 4. | a. | Solve  given , using Laplace transform. | CO3 | 12 |
|  | b. | Find . | CO1 | 8 |
|  |  |  |  |  |
| 5. | a. | Find the Fourier transform of . Hence find  . | CO2 | 10 |
|  | b. | Find the Fourier sine and cosine transform of  and find . | CO2 | 10 |
| (OR) | | | | |
| 6. | a. | Find the Fourier transform of. Hence find  . | CO2 | 10 |
|  | b. | Find the Fourier sine and cosine transform of . | CO2 | 10 |
|  |  |  |  |  |
| 7. | a. | Derive . | CO2 | 5 |
|  | b. | Derive . | CO2 | 7 |
|  | c. | Derive  and hence find . | CO2 | 8 |
| (OR) | | | | |
| 8. | a. | Derive . | CO2 | 8 |
|  | b. | Derive . | CO2 | 6 |
|  | c. | Derive . | CO2 | 6 |
|  | |  |  |  |
|  | | **Compulsory**: |  |  |
| 9. | a. | Solve  given . | CO3 | 12 |
|  | b. | Using residue method evaluate . | CO2 | 8 |

ALL THE BEST