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 – 2016**

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| **Code :** | **14MA2005** | **Duration :** | **3hrs** |
| **Sub. Name :** | **MATHEMATICAL FOUNDATION** | **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. | Prove that | | CO1 | 12 |
| b. | Find the real and imaginary part of | | CO1 | 8 |
| (OR) | | | | | |
| 2. |  | | If then prove that (i)  (ii) | CO1 | 20 |
| 3. | a. | Find the eigen values and eigen vectors of the matrix A= | | CO1 | 15 |
| b. | Two eigen values of the matrix are 1 and 2. Find the third eigen value and . | | CO1 | 5 |
| (OR) | | | | | |
| 4. |  | | Verify Cayley-Hamilton theorem for the matrix | CO1 | 20 |
| 5. | a. | If  then find. | | CO2 | 7 |
| b. | If  then find. | | CO2 | 6 |
| c. | If  then find | | CO2 | 7 |
| (OR) | | | | | |
| 6. | a. | If  then find. | | CO2 | 10 |
| b. | If  then find. | | CO2 | 10 |
| 7. | a. | Evaluate | | CO2 | 10 |
| b. | Evaluate | | CO2 | 10 |
| (OR) | | | | | |
| 8. | a. | Evaluate using Bernoullis formula. | | CO2 | 12 |
| b. | Evaluate | | CO2 | 8 |
|  | | **Compulsory:** | |  |  |
| 9. |  | | Solve | CO2 | 20 |

ALL THE BEST