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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|  |  | **Semester :** | **2016-17 ODD** |
| **Code :** | **13MA201** | **Duration :** | **3hrs** |
| **Sub. Name :** | **BASIC MATHEMATICS TO ENGINEERING** | **Max. marks :** | **100** |

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

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Q. No.** | **Sub Div.** | **Questions** | **Course**  **Outcome** | **Marks** |
| 1. | a. | Prove the identity | CO 1 | 10 |
| b. | Resolve into partial fractions. | CO 1 | 10 |
| (OR) | | | | |
| 2. | a. | Expandusing binomial theorem. | CO 1 | 10 |
| b. | Find the angle between two straight lines and | CO 1 | 10 |
| 3. | a. | Find the derivative of | CO 1 | 10 |
|  | b. | Evaluate | CO 1 | 10 |
| (OR) | | | | |
| 4. | a. | Find | CO 1 | 10 |
|  | b. | Integrate  with respect to x. | CO 1 | 10 |
| 5. | a. | Expand  as a Maclaurin series about x=0. | CO 1 | 20 |
| (OR) | | | | |
| 6. | a. | If , find the value of | CO 1 | 20 |
| 7. | a. | Find the distance between the points A and B whose position vectors are and | CO 1 | 10 |
|  | b. | Find the scalar and vector products of  and | CO 1 | 10 |
| (OR) | | | | |
| 8. | a. | Show that the lines and are skew lines and find the distance between them | CO 1 | 20 |
|  | | **Compulsory:** |  |  |
| 9. | a. | Find the eigen values and eigen vectors of A = | CO 1 | 20 |