**D.Y. PATIL COLLEGE OF ENGINEERING & TECHNOLOGY**

**KASABA BAWADA KOLHAPUR-416006**

**22SYAIML201 3 01**

**Q. Paper Code:**

**(An Autonomous Institute)**

**S. Y. B. Tech-CSE-AILM (Semester-III)**

**END SEMESTER EXAMINATION, OCT./NOV.- 2021-22**

**COURSE NAME:** Linear Algebra **COURSE CODE:**201AIMLL201

Seat No:

**Day and Date: Monday, 17/01/2022**

**Time: 11.00am to 12.30pm Max. Marks- 50**

***Instructions:***

1. *All Questions are* ***compulsory.***
2. *Figure to the right indicate* ***full marks****.*
3. Use of **non-programmable** calculator is allowed.

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| --- | --- | --- | --- | --- |
| **BT** | **CO’s** | **Q. No.** | **Statement of Question** | **Marks** |
|  |  | **Q.1** | **Attempt the following** | **20** |
| **L3** | **201.1** | **a** | Let, the set of all matrices with real entries.  For any  Define    Show that V is vector space. | **7** |
| **L3** | **201.2** | **b** | Calculate the rank and nullity of the matrix | **7** |
| **L3** | **201.3** | **c** | Let  be defined by    Compute the matrixwith respect to the basis where | **6** |
|  | | | | |
|  |  | **Q.2** | **Attempt the following** | **15** |
| **L3** | **201.4** | **A** | Suppose that u, v and w are vectors such that | **7** |
| **L3** | **201.5** | **b** | If the fuzzy set A and B are defined by the membership functions    **OR**  Consider the fuzzy sets A and B given by  Calculate | **8** |
|  | | | | |
|  |  | **Q.3** | **Attempt the following** | **15** |
| **L3** | **201.6** | **a** | Consider the fuzzy set    **OR**  Determine which of the following fuzzy sets are fuzzy numbers | **7** |
| **L3** | **201.6** | **b** | For the fuzzy set A and B defined on the Universal set X as    Calculate fuzzy set. | **8** |
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