Lesson Plan (2023-24)-Even Semester

Name of the Assistant Professor: Dr. Ashish Class and Section: B.Sc. 1st year (6th semester)

Subject: Linear Algebra

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| **WEEK** | **DATE** | **TOPICS** |
| **1** | 15.01.2024 | Vector spaces |
| 16.01.2024 | Subspaces |
| **17.01.2024** | **Guru Gobind Singh Jayanti** |
| 18.01.2024 | Sum and Direct sum of subspaces |
| 19.01.2024 | Linear span |
| 20.01.2024 | Problem |
| **2** | 22.01.2024 | Linearly Independent and dependent subsets of a vector space. |
| 23.01.2024 | Linearly Independent and dependent subsets of a vector space. |
| 24.01.2024 | Linearly Independent and dependent subsets of a vector space. |
| 25.01.2024 | Finitely generated vector space |
| **26.01.2024** | **Republic Day** |
| 27.01.2024 | Problems |
| **3** | 29.01.2024 | Existence theorem for basis of a finitely generated vactor space, |
| 30.01.2024 | Existence theorem for basis of a finitely generated vactor space, |
| 31.01.2024 | Finite dimensional vector spaces |
| 01.02.2024 | Finite dimensional vector spaces |
| 02.02.2024 | Revision |
| 03.02.2024 | Class Test |
| **4** | 05.02.2024 | Invariance of the number of elements of bases sets |
| 06.02.2024 | Dimensions |
| 07.02.2024 | Quotient space and its dimension. |
| 08.02.2024 | Quotient space and its dimension. |
| 09.02.2024 | Quotient space and its dimension. |
| 10.02.2024 | Revision |
| **5** | 12.02.2024 | Homomorphism and isomorphism of vector spaces |

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|  | 13.02.2024 | Homomorphism and isomorphism of vector spaces |
| **14.02.2024** | **Basant Panchami/ Sir Chhotu Ram Jayanti** |
| 15.02.2024 | Homomorphism and isomorphism of vector spaces |
| 16.02.2024 | Linear transformations and linear forms on vactor spaces |
| 17.02.2024 | Linear transformations and linear forms onvactor spaces |
| **6** | 19.02.2024 | Linear transformations and linear forms on vactor spaces |
| 20.02.2024 | Vactor space of all the linear transformations Dual Spaces, |
| 21.02.2024 | Vactor space of all the linear transformations Dual Spaces, |
| 22.02.2024 | Vactor space of all the linear transformations Dual Spaces, |
| 23.02.2024 | Test |
| **24.02.2024** | **Guru Ravidas Jayanti** |
| **7** | 26.02.2024 | Bidual spaces, |
| 27.02.2024 | Annihilator of subspaces of finite dimensional vector spaces |
| 28.02.2024 | Annihilator of subspaces of finite dimensional vector spaces |
| 29.02.2024 | Null Space |
| 01.03.2024 | Null Space |
| 02.03.2024 | Problems |
| **8** | 04.03.2024 | Range space of a linear transformation |
| 05.03.2024 | Range space of a linear transformation |
| 06.03.2024 | Rank and Nullity Theorem |
| 07.03.2024 | Rank and Nullity Theorem |
| **08.03.2024** | **Maha Shivratri** |
| 09.03.2024 | Problems |
| **9** | 11.03.2024 | Algebra of Liner Transformation |
| 12.03.2024 | Algebra of Liner Transformation |
| 13.03.2024 | Algebra of Liner Transformation |
| 14.03.2024 | Minimal Polynomial of a linear transformation |
| 15.03.2024 | Minimal Polynomial of a linear transformation |
| 16.03.2024 | Revision |
| **10** | 18.03.2024 | Singular and non-singular linear transformations |

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|  | 19.03.2024 | Singular and non-singular linear transformations |
| 20.03.2024 | Matrix of a linear Transformation |
| 21.03.2024 | Change of basis |
| 22.03.2024 | Eigen values and Eigen vectors of linear transformations. |
| **23.03.2024** | **Holi Vacation** |
| **11** | 25.03.2024 | **Holi Vacation** |
| 26.03.2024 | **Holi Vacation** |
| 27.03.2024 | **Holi Vacation** |
| 28.03.2024 | **Holi Vacation** |
| 29.03.2024 | **Holi Vacation** |
| 30.03.2024 | **Holi Vacation** |
| **12** | 01.04.2024 | Inner product spaces |
| 02.04.2024 | Inner product spaces |
| 03.04.2024 | Cauchy-Schwarz inequality |
| 04.04.2024 | Cauchy-Schwarz inequality |
| 05.04.2024 | Orthogonal vectors |
| 06.04.2024 | Orthogonal complements |
| **13** | 08.04.2024 | Orthogonal sets and Basis |
| 09.04.2024 | Bessel’s inequality for finite dimensional vector spaces |
| 10.04.2024 | Gram-Schmidt, Orthogonalization process |
| **11.04.2024** | **Id-ul-Fitr** |
| 12.04.2024 | Adjoint of a linear transformation and its properties |
| 13.04.2024 | **Vaisakhi** |
| **14** | 15.04.2024 | Unitary linear transformations. |
| 16.04.2024 | Unitary linear transformations. |
| **17.04.2024** | **Ram Navmi** |
| 18.04.2024 | Revision |
| 19.04.2024 | Revision |
| 20.04.2024 | Revision |
| **15** | 22.04.2024 | Revision |
| 23.04.2024 | Revision |