**GOVT. COLLEGE BAROTA**

**LESSON PLAN OF MATHEMATICS(2023-24)(ODD SEM.)**

**B.A./B.SC. (1st SEM.)**

**ALGEBRA**

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| **MONTH** | **WEEK** | **SYLLABUS** |
| JULY | WEEK 1 | Relations between the roots and coefficients of general polynomial equation in one variable. |
| AUGUST | WEEK 1 | Solutions of polynomial equations having conditions on roots.  |
| WEEK 2 | Common roots and multiple roots. |
| WEEK 3 | Test, Transformation of equations. |
| WEEK 4 | Transformation of equations ctd. |
| WEEK 5 | Assignment, Descarte’s rule of signs, Cardon’s method to solve cubic Equations. |
| SEPTEMBER | WEEK 1 | Biquadratic equations and their solutions. |
| WEEK 2 | Test, Symmetric, Skew symmetric, Hermitian and skew Hermitian matrices. Elementary Operations on matrices.  |
| WEEK 3 | Rank of a matrices. Inverse of a matrix. Linear dependence and independence of rows and columns of matrices. |
| WEEK 4 | Row rank and column rank of a matrix, Eigenvalues, eigenvectors and the characteristic equation of a matrix. |
| OCTOBER | WEEK 1 | Minimal polynomial of a matrix. Cayley Hamilton theorem and its use in finding the inverse of a matrix. |
| WEEK 2 | Assignment, Applications of matrices to a system of linear (both homogeneous and non–homogeneous) equations |
| WEEK 3 | Theorems on consistency of a system of linear equations, Unitary and Orthogonal Matrices. |
| WEEK 4 | Bilinear and Quadratic forms. |
| NOVEMBER | WEEK 1 | Test, Revision |
| WEEK 2 | Revision |
| WEEK 3 | Revision |