Subject : Mathematics

Teacher name: Pinki , Paper 1 Semester 1st

November 2020

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| Symmetric, Skew symmetr ic, Hermitian and skew Hermitian matrices. Elementar y Operations on matrices. Rank of a matrices. Inverse of a matrix. Linear dependence and independence of rows and columns of matrices. Row rank and column rank of a matrix.  Eigenvalues, eigenvectors and the characteristic equation of a matrix. Minimal polynomial of a matrix. Cayley Hamilton theorem and its use in finding the inverse of a matrix. |

December 2020

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| Applications of matrices to a system of linear (both homogeneous and non– homogeneous) equations. Theorems on consistency of a system of linear equations. Unitary and Orthogonal Matrices, Bilinear and Quadratic forms. |

January 2021

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| Relations between the roots and coefficients of general polynomial equation in one variable. Solutions of polynomial equations having conditions on roots. Common roots  and multiple roots. Transformation of equations.  ***:*** |

February 2021

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| Nature of the roots of an equation Descarte’s rule of signs. Solutions of cubic equations  (Cardon’s method). Biquadratic equations and their solutions. |