**SRM INSTITUTE OF SCIENCE AND TECHNOLOGY**

**DEPARTMENT OF MATHEMATICS**

**18MAB101T - CALCULUS AND LINEAR ALGEBRA**

**ASSIGNMENT - 1 (UNIT I)**

1. Find the eigenvalues and eigenvectors of 
2. Verify Cayley Hamilton theorem and find and when A=
3. Use Cayley Hamilton theorem to find the value of the matrix given by

if the matrix .

1. Reduce the quadratic form Q=3x2+5y2+3z2-2xy-2yz+2xz to canonical form and hence find its nature, rank, index andsignature.
2. Reduce the quadratic form Q=x12+2x2x3 to canonical form and hence find its nature, rank, index andsignature.

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