Quiz-30

Q.1 If the n columns of the diagonalizing matrix S of A are independent, then which of the following is true.

A. A is invertible B. A is diagonalizable C. S is not invertible D. S is diagonalizable

Q.2 If the eigenvalues of the matrix A are 2, 2, 5, then which of the following is true.

A. A is invertible B. A is diagonalizable C. A is not diagonalizable D. None of these

Q.3 If S is the diagonalizing matrix and Λ is the diagonalized matrix of A, then A^k =_____.

A. $S^k \Lambda S^{-1}$ B. $S\Lambda(S^{-1})^k$ C. $S\Lambda^k S^{-1}$ D. None of these

Q.4 e^{At} = _____.

A. $Ae^{\Lambda t}A^{-1}$ B. $Se^{\Lambda t}S^{-1}$ C. $S^{-1}e^{\Lambda t}S$ D. None of these

Q.5 The complex number z =1-i lies _____ the unit circle.

A. outside B. inside C. on D. None of these

Q.6 What is the absolute value of the complex number z = 3-4i ?

A. 3 B. 4 C. $\sqrt{5}$ D. 5

Q.7 Find the length of the vector x = (2-4i,4i).

A. 6 B. 5 C. 4 D. 3

Q.8 Find the inner product of x = (1+i,3i) with itself.

A. 8 B. 9 C. 10 D. 11