Quiz-27

Q.1 What are the eigenvectors of the matrix $A = \begin{bmatrix} 1 & -1 \\ 2 & 4 \end{bmatrix}$?

A. (2,3),(1,2)   B. (1,0),(0,1) C. (1,1),(2,2) D. None of these

Q.2 Find the trace of the matrix $A = \begin{bmatrix} 2 & 1 & 2 \\ 4 & 2 & 4 \\ 2 & 1 & 2 \end{bmatrix}$.

A. 5   B. 6   C. 7   D. 8

Q.3 If the matrix A has eigenvalues 2 and 5 then what are the eigenvalues of the inverse of A.

(A) $1/\sqrt{2}, 1/\sqrt{5}$ (B) 1/2, 1/5   (C) 2,5   (D) -2,-5

Q.4 If A is a second order diagonal matrix of with nonzero diagonal elements, then what are the eigenvectors of A.

(A) (1,2), (2,1)   (B) (1,3), (3,1)   (C) (1,0), (0,1)   (D) (1,1), (2,2)

Q.5 Find the inner product of the vectors x=(2,3+3i) and y=(3-3i,5).

(A) 21(1-i)   (B) 21(1+i)   (C) 20(1-i)   (D) 20(1+i)