A 3 x 3 identity matrix have three and _____eigen values.

same

different

Eigenvalues of a symmetric matrix are all _____ .

real

complex

zero

positive

The Jacobi iteration converges, if A is strictly diagonally dominant.

TRUE

FALSE

Below are all the finite difference methods EXCEPT _____.

jacobi's method

newton's backward difference method

Stirling formula

Forward difference method

If n x n matrices A and B are similar, then they have the same eigenvalues (with the same multiplicities).

TRUE

FALSE

If A is a nxn triangular matrix (upper triangular, lower triangular) or diagonal matrix , the eigenvalues of A are the diagonal entries of A.

TRUE

FALSE

The characteristics polynomial of a 3x 3 identity matrix is _____, if x is the eigen values of the given 3 x 3 identity matrix. where symbol ^ shows power.

(x-1)^3

(x+1)^3

x^3-1

x^3+1

Two matrices with the same characteristic polynomial need not be similar.

TRUE

FALSE

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MCQz (Set-6)

Question # 1 of 10 (Start time: 04:40:08 PM) Total Marks: 1

The determinant of a diagonal matrix is the product of the diagonal elements.

True

1. False

Question # 2 of 10 (Start time: 04:40:58 PM) Total Marks: 1

Power method is applicable if the eigen vectors corresponding to eigen values are linearly independent.

True

1. false

A 3 x 3 identity matrix have three and different eigen values.

1. True

False

If n x n matrices A and B are similar, then they have the different eigenvalues (with the same multiplicities).

1. True

False

The Jacobi's method is a method of solving a matrix equation on a matrix that has ____ zeros along its main diagonal.

No

1. At least one

An eigenvector V is said to be normalized if the coordinate of largest magnitude is equal to _____.

Unity

1. zero

The Gauss-Seidel method is applicable to strictly diagonally dominant or symmetric positive definite matrices A.

True

1. False

The determinant of a _____ matrix is the product of the diagonal elements.

Diagonal

1. Upper triangular
2. Lower triangular
3. Scalar

Eigenvalues of a symmetric matrix are all _____.

Real

1. Zero
2. Positive
3. Negative

The Power method can be used only to find the eigen value of A that is largest in absolute value—we call this eigen value the dominant eigen value of A.

True

1. False

The characteristics polynomial of a 3x 3 identity matrix is _____, if x is the eigen values of the given 3 x 3 identity matrix. where symbol ^ shows power.

(x-1)^3

1. (x+1)^3
2. x^3-1
3. x^3+1

For differences methods we require the set of values.

True

1. False

If n x n matrices A and B are similar, then they have the different eigenvalues (with the same multiplicities).

1. True

False

If x is an eigen value corresponding to eigen value of V of a matrix A. If a is any constant, then x – a is an eigen value corresponding to eigen vector V is an of the matrix A - a I.

True

1. False

Central difference method seems to be giving a better approximation, however it requires more computations.

1. True

False

Iterative algorithms can be more rapid than direct methods.

True

1. False

Central Difference method is the finite difference method.

True

1. False

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MCQz (Set-8)

Question # 1 of 10 (Start time: 10:22:24 AM) Total Marks: 1

Eigenvalues of a symmetric matrix are all _____.
Select correct option:

real
zero
positive
negative

Question # 2 of 10 (Start time: 10:23:07 AM) Total Marks: 1

An eigenvector V is said to be normalized if the coordinate of largest magnitude is equal to zero.
Select correct option:

TRUE
FALSE

Question # 3 of 10 (Start time: 10:23:55 AM) Total Marks: 1

Exact solution of 2/3 is not exists.
Select correct option:

TRUE

FALSE

Question # 4 of 10 (Start time: 10:24:53 AM) Total Marks: 1

The Gauss-Seidel method is applicable to strictly diagonally dominant or symmetric _____ definite matrices A.
Select correct option:

positive
negative

Question # 5 of 10 (Start time: 10:26:04 AM) Total Marks: 1
Differences methods find the _____ solution of the system.
Select correct option:

numerical
Analytical

Question # 6 of 10 (Start time: 10:26:49 AM) Total Marks: 1
The characteristics polynomial of a 3x 3 identity matrix is _____, if x is the eigen values of the given 3 x 3 identity matrix. where symbol ^ shows power.
Select correct option:

(x-1)^3
(x+1)^3 i m not sure about this answer
x^3-1
x^3+1

Question # 7 of 10 (Start time: 10:28:08 AM) Total Marks: 1

The Power method can be used only to find the eigenvalue of A that is largest in absolute value—we call this eigenvalue the dominant eigenvalue of A.
Select correct option:

TRUE
FALSE

Question # 8 of 10 (Start time: 10:29:33 AM) Total Marks: 1
The Jacobi's method is a method of solving a matrix equation on a matrix that has no zeros along its _____.
Select correct option:

main diagonal
last column
last row
first row i m not sure about this answer

Question # 9 of 10 (Start time: 10:30:33 AM) **Total Marks: 1**

If A is a nxn triangular matrix (upper triangular, lower triangular) or diagonal matrix , the eigenvalues of A are the diagonal entries of A.
Select correct option:

TRUE
FALSE

Question # 10 of 10 (Start time: 10:31:28 AM) **Total Marks: 1**
A 3 x 3 identity matrix have three and different eigen values.
Select correct option:

TRUE
FALSE

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MCQz (Set-12)

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MCQz (Set-13)

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