

RIZ MUGHAL

QUIZ MASTER

MTH603 LEC (13 to 16)

100% correct solution.

For more information you can visit my channel and for any type of help related to CS619 you can contact me.



YOUTUBE CHANNEL:

<https://www.youtube.com/channel/UCINsFwDiB62SValCcPDZbRQ/playlists>

FACEBOOK GROUP:

<https://www.facebook.com/groups/923887914750307>

Question # 1 of 10 (Start time: 12:05:07 PM, 17 December 2020)

Tot

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

Select the correct option

☒	positive
☐	negative

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R

Question # 2 of 10 (Start time: 12:05:23 PM, 17 December 2020)

Total Marks: 1

While using power method, the computed vector

$$u^{(2)} = \begin{pmatrix} 5.571428 \\ 9.57142 \\ 12.21423 \end{pmatrix}$$

Select the correct option

[Reload Math Equations](#)

$$u^{(2)} = 12.21423 \begin{pmatrix} 0.456142 \\ 0.783628 \\ 1 \end{pmatrix}$$



$$u^{(2)} = 9.57142 \begin{pmatrix} 0.582090 \\ 1 \\ 1.276142 \end{pmatrix}$$



$$u^{(2)} = 5.571428 \begin{pmatrix} 1 \\ 1.717938 \\ 2.192286 \end{pmatrix}$$



$$u^{(2)} = 3.523498 \begin{pmatrix} 1 \\ 1.876547 \\ 2.937987 \end{pmatrix}$$

Question # 2 of 10 (Start time: 12:05:23 PM, 17 December 2020)

Total

$$u^{(2)} = \begin{pmatrix} 9.57142 \\ 12.21423 \end{pmatrix}$$

will be in normalized form as

Select the correct option

[Reload Math Equ](#)

- | | |
|----------------------------------|--|
| ☒ | $u^{(2)} = 12.21423 \begin{pmatrix} 0.456142 \\ 0.783628 \\ 1 \end{pmatrix}$ |
| ☐ | $u^{(2)} = 9.57142 \begin{pmatrix} 0.582090 \\ 1 \\ 1.276142 \end{pmatrix}$ |
| ☐ | $u^{(2)} = 5.571428 \begin{pmatrix} 1 \\ 1.717938 \\ 2.192286 \end{pmatrix}$ |
| ☐ | $u^{(2)} = 3.523498 \begin{pmatrix} 1 \\ 1.876547 \\ 2.937987 \end{pmatrix}$ |

Question # 3 of 10 (Start time: 12:05:53 PM, 17 December 2020)

For two matrices A and B, such that "A = Inverse of B", then which of the following is true?

Select the correct option

- | | |
|----------------------------------|--------------------------|
| ☐ | B = Inverse of A |
| ☐ | A and B are non-singular |
| ☐ | AB = Identity Matrix |
| ☒ | All choices are true |

Question # 4 of 10 (Start time: 12:06:08 PM, 17 December 2020)

Which of the following is the meaning of partial pivoting while employing the row transformations?

Select the correct option

- | | |
|----------------------------------|--------------------------------------|
| ☒ | Making the largest element as pivot |
| ☐ | Making the smallest element as pivot |
| ☐ | Making any element as pivot |
| ☐ | Making zero elements as pivot |

Question # 5 of 10 (Start time: 12:06:22 PM, 17 December 2020)

The basic idea of relaxation method is to reduce the largest residual to

Select the correct option



One



Two



Zero



None of the given choices

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Question # 6 of 10 (Start time: 12:06:35 PM, 17 December 2020)

Total Mar

How many Eigen vectors will exist corresponding to the function; $\text{Exp}(ax) = e^{ax}$, when the matrix operator is of differentiation?

Select the correct option

☒	Infinite many
☐	Unique
☐	Finite Multiple
☐	None

Question # 7 of 10 (Start time: 12:06:50 PM, 17 December 2020)

If

$$A = \begin{bmatrix} 1 & 2 & 1 \\ 0 & 3 & -1 \\ 0 & 1 & 3 \end{bmatrix}$$

Select the correct option

[Reload Ma](#)

$$\begin{bmatrix} -1 & \frac{1}{2} & \frac{1}{2} \\ 0 & -\frac{3}{10} & -\frac{1}{10} \\ 0 & 1 & 3 \end{bmatrix}$$



$$\begin{bmatrix} 0 & -\frac{3}{10} & -\frac{1}{10} \\ -1 & -\frac{1}{2} & -\frac{1}{2} \\ 0 & 1 & 3 \end{bmatrix}$$

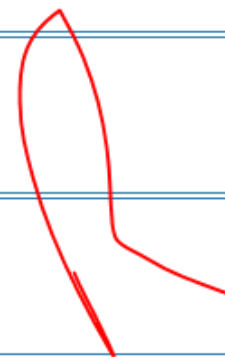


$$\begin{bmatrix} 1 & -\frac{1}{2} & -\frac{1}{2} \\ 0 & \frac{3}{10} & \frac{1}{10} \\ 0 & 1 & 3 \end{bmatrix}$$



$$\begin{bmatrix} 0 & \frac{3}{10} & \frac{1}{10} \\ 1 & -\frac{1}{2} & -\frac{1}{2} \\ 0 & 1 & 3 \end{bmatrix}$$

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Question # 7 of 10 (Start time: 12:06:50 PM, 17 December 2020)

$$\begin{bmatrix} 0 & 1 & 3 \end{bmatrix}$$

then by using Gaussian Elimination method the value of

$$A^{-1}$$

Select the correct option

[Reload M](#)

- | | |
|----------------------------------|--|
| ☐ | $\begin{bmatrix} 1 & 2 & 2 \\ 0 & -\frac{3}{10} & -\frac{1}{10} \\ 0 & -\frac{1}{10} & -\frac{3}{10} \end{bmatrix}$ |
| ☐ | $\begin{bmatrix} 0 & -\frac{1}{10} & -\frac{1}{10} \\ -1 & -\frac{1}{2} & -\frac{1}{2} \\ 0 & -\frac{1}{10} & -\frac{3}{10} \end{bmatrix}$ |
| ☒ | $\begin{bmatrix} 1 & 2 & 2 \\ 0 & \frac{3}{10} & \frac{1}{10} \\ 0 & -\frac{1}{10} & \frac{3}{10} \end{bmatrix}$ |
| ☐ | $\begin{bmatrix} 0 & -\frac{1}{10} & -\frac{1}{10} \\ 1 & -\frac{1}{2} & -\frac{1}{2} \\ 0 & -\frac{1}{10} & \frac{3}{10} \end{bmatrix}$ |
- 

Question # 8 of 10 (Start time: 12:07:26 PM, 17 December 2020)

The Jacobi's method is a method of solving a matrix equation on a matrix that has no zeros along its _____.

Select the correct option

- | | |
|----------------------------------|---------------|
| ☒ | main diagonal |
| ☐ | last column |
| ☐ | last row |
| ☐ | first row |

Question # 9 of 10 (Start time: 12:07:43 PM, 17 December 2020)

To

While using power method, the computed vector

$$u^{(1)} = \begin{pmatrix} 7 \\ 12 \\ 14 \end{pmatrix}$$

Select the correct option

[Reload Math](#)

$$u^{(1)} = 7 \begin{pmatrix} 1 \\ 12/7 \\ 14/7 \end{pmatrix}$$



$$u^{(1)} = \frac{1}{7} \begin{pmatrix} 1 \\ 7/12 \\ 7/14 \end{pmatrix}$$

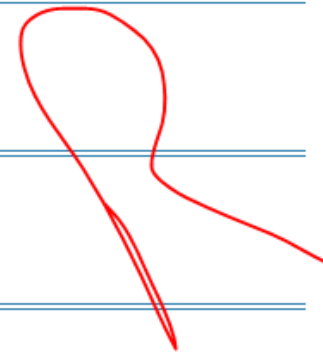


$$u^{(1)} = 12 \begin{pmatrix} 7/12 \\ 1 \\ 14/12 \end{pmatrix}$$



$$u^{(1)} = 14 \begin{pmatrix} 7/14 \\ 12/14 \\ 1 \end{pmatrix}$$

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Question # 10 of 10 (Start time: 12:08:05 PM, 17 December 2020)

Total Marks

While using the relaxation method for finding the solution of the following system

$$5x_1 + x_2 - 3x_3 = 5$$

$$x_1 + 5x_2 + 2x_3 = 7 \text{ with the initial vector } (0, 0, 0), \text{ the residuals would be}$$

Select the correct option

[Reload Math Equat](#)

☐	$R_1 = 2, R_2 = 1, R_3 = 1$
☐	$R_1 = 1, R_2 = 3, R_3 = 2$
☒	$R_1 = 5, R_2 = 7, R_3 = 3$
☐	$R_1 = 3, R_2 = 2, R_3 = 1$

2nd account

Question # 1 of 10 (Start time: 12:37:23 PM, 17 December 2020)

Total Marks: 1

In the context of Jacobi's method for finding Eigen values and Eigen vectors of a real symmetric matrix of order 2×2 , if $|-5|$ be its largest off-diagonal then which of the following will be its corresponding off-diagonal values of Orthogonal Matrix?

Select the correct option

- | | | |
|----------------------------------|-------------------------------|----|
| ☐ | $\cos(\theta), -\cos(\theta)$ | // |
| ☐ | $\sin(\theta), \cos(\theta)$ | // |
| ☒ | $\sin(\theta), -\sin(\theta)$ | // |
| ☐ | $-\sin(\theta), \cos(\theta)$ | // |

Question # 2 of 10 (Start time: 12:37:41 PM, 17 December 2020)

Let A be an $n \times n$ matrix. The number x is an eigenvalue of A if there exists a non-zero vector v such that _____.

Select the correct option

- | | |
|----------------------------------|---------------|
| ☒ | $Av = xv$ |
| ☐ | $Ax = xv$ |
| ☐ | $Av + xv = 0$ |
| ☐ | $Av = Ax$ |

Question # 3 of 10 (Start time: 12:37:55 PM, 17 December 2020)

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

Select the correct option



no



atleast one

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Question # 4 of 10 (Start time: 12:38:10 PM, 17 December 2020)

If the product of two matrices is an identity matrices that is $AB = I$, then which of the following is true?

Select the correct option

- | | |
|----------------------------------|---------------------|
| ☐ | A is transpose of B |
| ☒ | A is inverse of B |
| ☐ | A is singular |
| ☐ | B is singular |

Question # 5 of 10 (Start time: 12:38:25 PM, 17 December 2020)

Total Marks: 1

Let $[A]$ be a 3×3 real symmetric matrix with

$$|a_{13}|$$

be numerically the largest off-diagonal element of A , then we can construct orthogonal matrix S_1 by Jacobi's method as

Select the correct option

[Reload Math Equations](#)

- ☐ $\begin{bmatrix} \cos \theta & -\sin \theta & 0 \\ \sin \theta & \cos \theta & 0 \\ 0 & 0 & 1 \end{bmatrix}$
- ☒ $\begin{bmatrix} \cos \theta & 0 & -\sin \theta \\ 0 & 1 & 0 \\ \sin \theta & 0 & \cos \theta \end{bmatrix}$
- ☐ $\begin{bmatrix} 1 & 0 & 0 \\ 0 & \cos \theta & -\sin \theta \\ 0 & \sin \theta & \cos \theta \end{bmatrix}$
- ☐ $\begin{bmatrix} 1 & 0 & 0 \\ 0 & \cos \theta & -\cos \theta \\ 0 & \sin \theta & -\sin \theta \end{bmatrix}$

Question # 6 of 10 (Start time: 12:38:43 PM, 17 December 2020)

Total M

While using power method, the computed vector

$$u^{(1)} = \begin{pmatrix} 7 \\ 12 \\ \vdots \end{pmatrix}$$

Select the correct option

[Reload Math Equa](#)

$$u^{(1)} = 7 \begin{pmatrix} 1 \\ 12/7 \\ 14/7 \end{pmatrix}$$



$$u^{(1)} = \frac{1}{7} \begin{pmatrix} 1 \\ 7/12 \\ 7/14 \end{pmatrix}$$



$$u^{(1)} = 12 \begin{pmatrix} 7/12 \\ 1 \\ 14/12 \end{pmatrix}$$



$$u^{(1)} = 14 \begin{pmatrix} 7/14 \\ 12/14 \\ 1 \end{pmatrix}$$

Question # 7 of 10 (Start time: 12:39:00 PM, 17 December 2020)

Total Marks:

In Jacobi's method after finding $D1$, the sum of the diagonal elements of $D1$ should be to the sum of the diagonal elements of the original matrix A .

Select the correct option

- | | | |
|----------------------------------|--------------|----|
| ☐ | Greater than | // |
| ☐ | Less than | // |
| ☒ | Same | // |
| ☐ | Different | // |

Question # 8 of 10 (Start time: 12:39:15 PM, 17 December 2020)

Total Mar

While using Relaxation method, which of the following is the Residuals for 1st iteration on the system; $2x+3y = 1$, $3x+2y = 4$?

Select the correct option

- | | |
|----------------------------------|--------|
| ☐ | (2,3) |
| ☐ | (3,-2) |
| ☐ | (-2,3) |
| ☒ | (1,4) |

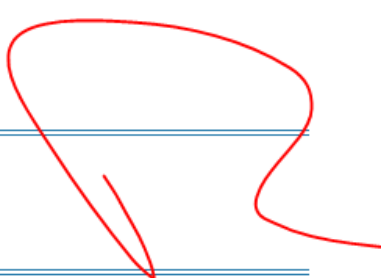
Question # 9 of 10 (Start time: 12:39:31 PM, 17 December 2020)

Total

Let $[A]$ be a 3×3 real symmetric matrix with $|a_{12}|$ be the numerically largest off-diagonal element using Jacobi's method the value of θ can be found by

Select the correct option

[Reload Math Eq](#)

- | | |
|----------------------------------|--|
| ☐ | $\tan 2\theta = \frac{2a_{23}}{a_{33} - a_{22}}$ |
| ☐ | $\tan 2\theta = \frac{2a_{23}}{a_{22} - a_{33}}$ |
| ☒ | $\tan 2\theta = \frac{2a_{12}}{a_{11} - a_{22}}$ |
| ☐ | $\tan 2\theta = \frac{2a_{13}}{a_{11} - a_{33}}$ |
- 

Question # 10 of 10 (Start time: 12:39:50 PM, 17 December 2020)

While using Relaxation method, which of the following is the largest Residual for 1st iteration on the system;
 $2x+3y = 1$, $3x+2y = -4$?

Select the correct option



-4



3



2



1

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3rd account

Question # 1 of 10 (Start time: 03:16:05 PM, 17 December 2020)

Eigenvalues of a _____ matrix are all real.

Select the correct option

- | | |
|----------------------------------|---------------|
| ☒ | symmetric |
| ☐ | antisymmetric |
| ☐ | rectangular |
| ☐ | triangular |

Question # 2 of 10 (Start time: 03:16:22 PM, 17 December 2020)

Total Marks:

In the context of Jacobi's method for finding Eigen values and Eigen vectors of a real symmetric matrix of order 2×2 , if $|-5|$ be its largest off-diagonal then which of the following will be its corresponding off-diagonal values of Orthogonal Matrix?

Select the correct option

- | | | |
|----------------------------------|-------------------------------|----|
| ☐ | $\cos(\theta), -\cos(\theta)$ | // |
| ☐ | $\sin(\theta), \cos(\theta)$ | // |
| ☒ | $\sin(\theta), -\sin(\theta)$ | // |
| ☐ | $-\sin(\theta), \cos(\theta)$ | // |

Question # 3 of 10 (Start time: 03:16:42 PM, 17 December 2020)

While using power method, the computed vector

$$u^{(2)} = \begin{pmatrix} 6.571428 \\ 9.57142 \\ 11.21423 \end{pmatrix}$$

Select the correct option



- | | |
|----------------------------------|--|
| ☐ | $u^{(2)} = 6.571428 \begin{pmatrix} 1 \\ 1.456521 \\ 1.898872 \end{pmatrix}$ |
| ☐ | $u^{(2)} = 9.57142 \begin{pmatrix} 0.686567 \\ 1 \\ 2.976547 \end{pmatrix}$ |
| ☒ | $u^{(2)} = 11.21423 \begin{pmatrix} 0.585990 \\ 0.853506 \\ 1 \end{pmatrix}$ |
| ☐ | $u^{(2)} = 12.21423 \begin{pmatrix} 0.456142 \\ 0.783628 \\ 1 \end{pmatrix}$ |

Question # 4 of 10 (Start time: 03:17:09 PM, 17 December 2020)

Total Mark

Let $[A]$ be a 3×3 real symmetric matrix with $|a_{13}|$ be the numerically largest off-diagonal element then using Jacobi's method the value of θ can be found by

Select the correct option

[Reload Math Equation](#)

$$\tan 2\theta = \frac{2a_{23}}{a_{33} - a_{22}}$$



$$\tan 2\theta = \frac{2a_{23}}{a_{22} - a_{33}}$$



$$\tan 2\theta = \frac{2a_{12}}{a_{11} - a_{22}}$$



$$\tan 2\theta = \frac{2a_{13}}{a_{11} - a_{33}}$$

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Question # 5 of 10 (Start time: 03:17:27 PM, 17 December 2020)

Total M

How many Eigen vectors will exist corresponding to the function; $\text{Exp}(ax) = e^{ax}$, when the matrix operator is of differentiation?

Select the correct option

☒	Infinite many
☐	Unique
☐	Finite Multiple
☐	None

Question # 6 of 10 (Start time: 03:17:44 PM, 17 December 2020)

Total

While using the relaxation method for finding the solution of the following system

$$8x_1 + 3x_2 - 2x_3 = 5$$

$$4x_1 + 7x_2 + 2x_3 = 9 \text{ with the initial vector } (0, 0, 0), \text{ the residuals would be}$$

Select the correct option

[Reload Math Ed](#)

☒	$R_1 = 5, R_2 = 9, R_3 = 2$
☐	$R_1 = 2, R_2 = 6, R_3 = 3$
☐	$R_1 = 3, R_2 = 7, R_3 = 6$
☐	$R_1 = -4, R_2 = 8, R_3 = 9$

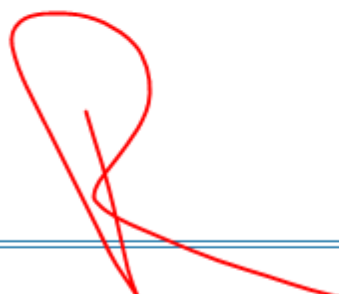
Question # 7 of 10 (Start time: 03:18:00 PM, 17 December 2020)

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

Select the correct option

☒	TRUE
☐	FALSE

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Question # 8 of 10 (Start time: 03:18:21 PM, 17 December 2020)

While using power method, from the resultant normalize vector

$$u^{(2)} = 9.85490 \begin{pmatrix} 0.678958 \\ 1.0 \\ 1.123685 \end{pmatrix}$$

Select the correct option

 Reload

- | | |
|----------------------------------|--|
| ☐ | $\lambda = 1.123685, (X) = \begin{pmatrix} 9.85490 \\ 1.0 \\ 0.678958 \end{pmatrix}$ |
| ☐ | $\lambda = 1.123685, (X) = \begin{pmatrix} 0.678958 \\ 1.0 \\ 9.85490 \end{pmatrix}$ |
| ☒ | $\lambda = 9.85490, (X) = \begin{pmatrix} 0.678958 \\ 1.0 \\ 1.123685 \end{pmatrix}$ |
| ☐ | $\lambda = 9.85490, (X) = \begin{pmatrix} 1.123685 \\ 1.0 \\ 0.678958 \end{pmatrix}$ |

Question # 9 of 10 (Start time: 03:18:39 PM, 17 December 2020)

Tot

While using the relaxation method for finding the solution of the below given system,
which of the following increment will be introduced?

$$6x_1 - 2x_2 + 3x_3 = 1$$

Select the correct option

[Reload Math E](#)

- | | |
|----------------------------------|-----------------------------|
| ☐ | $dx_1 = \frac{R_1}{a_{22}}$ |
| ☐ | $dx_1 = \frac{R_1}{a_{11}}$ |
| ☐ | $dx_2 = \frac{R_2}{a_{22}}$ |
| ☒ | $dx_3 = \frac{R_3}{a_{33}}$ |
- RIZ MUGHAL
- R

Question # 10 of 10 (Start time: 03:19:00 PM, 17 December 2020)

Total Marks

While using the relaxation method for finding the solution of the following system

$$5x_1 + x_2 - 3x_3 = 5$$

$$x_1 + 5x_2 + 2x_3 = 7 \text{ with the initial vector } (0, 0, 0), \text{ the residuals would be}$$

Select the correct option

[Reload Math Equat](#)

- | | |
|----------------------------------|-----------------------------|
| ☐ | $R_1 = 2, R_2 = 1, R_3 = 1$ |
| ☐ | $R_1 = 1, R_2 = 3, R_3 = 2$ |
| ☒ | $R_1 = 5, R_2 = 7, R_3 = 3$ |
| ☐ | $R_1 = 3, R_2 = 2, R_3 = 1$ |

4th account

Question # 1 of 10 (Start time: 03:22:03 PM, 17 December 2020)

While using power method, the computed vector

$$u^{(2)} = \begin{pmatrix} 6.571428 \\ 9.57142 \\ 11.21423 \end{pmatrix}$$

Select the correct option

Reload

- | | |
|----------------------------------|--|
| ☐ | $u^{(2)} = 6.571428 \begin{pmatrix} 1 \\ 1.456521 \\ 1.898872 \end{pmatrix}$ |
| ☐ | $u^{(2)} = 9.57142 \begin{pmatrix} 0.686567 \\ 1 \\ 2.976547 \end{pmatrix}$ |
| ☒ | $u^{(2)} = 11.21423 \begin{pmatrix} 0.585990 \\ 0.853506 \\ 1 \end{pmatrix}$ |
| ☐ | $u^{(2)} = 12.21423 \begin{pmatrix} 0.456142 \\ 0.783628 \\ 1 \end{pmatrix}$ |

Question # 2 of 10 (Start time: 03:22:19 PM, 17 December 2020)

Total Marks: 1

In the context of Jacobi's method for finding Eigen values and Eigen vectors of a real symmetric matrix of order 2×2 , if $|-5|$ be its largest off-diagonal then which of the following will be its corresponding off- diagonal values of Orthogonal Matrix?

Select the correct option

- | | | |
|----------------------------------|-------------------------------|----|
| ☐ | $\cos(\theta), -\cos(\theta)$ | // |
| ☐ | $\sin(\theta), \cos(\theta)$ | // |
| ☒ | $\sin(\theta), -\sin(\theta)$ | // |
| ☐ | $-\sin(\theta), \cos(\theta)$ | // |

Question # 3 of 10 (Start time: 03:22:37 PM, 17 December 2020)

Total Marks: 1

If $A = \begin{bmatrix} 2 & 0 & 0 \\ 3 & 2 & 3 \end{bmatrix}$ then by using Gaussian Elimination method the value of A^{-1} will be

Select the correct option

[Reload Math Equations](#)

$$\begin{bmatrix} -\frac{1}{2} & 0 & 0 \\ 2 & -\frac{3}{2} & \frac{1}{2} \\ -5 & 2 & -1 \end{bmatrix}$$



$$\begin{bmatrix} \frac{1}{2} & 0 & 0 \\ -2 & \frac{3}{2} & -\frac{1}{2} \\ 5 & 2 & 1 \end{bmatrix}$$



$$\begin{bmatrix} -2 & \frac{3}{2} & -\frac{1}{2} \\ \frac{1}{2} & 0 & 0 \\ 5 & 2 & 1 \end{bmatrix}$$



$$\begin{bmatrix} \frac{5}{6} & -\frac{2}{3} & \frac{1}{3} \\ -2 & \frac{3}{2} & -\frac{1}{2} \\ 1 & 2 & 2 \end{bmatrix}$$

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R

Question # 3 of 10 (Start time: 03:22:37 PM, 17 December 2020)

Total Mark

If $A = \begin{bmatrix} 3 & 2 & 3 \\ 1 & 4 & 9 \end{bmatrix}$ then by using Gaussian Elimination method the value of A^{-1} will be

Select the correct option

[Reload Math Equation](#)

- | | |
|----------------------------------|--|
| ☐ | $\begin{bmatrix} 2 & 0 & 0 \\ 2 & -\frac{3}{2} & \frac{1}{2} \\ -\frac{5}{6} & \frac{2}{3} & -\frac{1}{3} \end{bmatrix}$ |
| ☒ | $\begin{bmatrix} 2 & 0 & 0 \\ -2 & \frac{3}{2} & -\frac{1}{2} \\ \frac{5}{6} & -\frac{2}{3} & \frac{1}{3} \end{bmatrix}$ |
| ☐ | $\begin{bmatrix} 2 & 2 & -2 \\ \frac{1}{2} & 0 & 0 \\ \frac{5}{6} & -\frac{2}{3} & \frac{1}{3} \end{bmatrix}$ |
| ☐ | $\begin{bmatrix} \frac{5}{6} & -\frac{2}{3} & \frac{1}{3} \\ -2 & \frac{3}{2} & -\frac{1}{2} \end{bmatrix}$ |

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Question # 4 of 10 (Start time: 03:23:09 PM, 17 December 2020)

While using power method, the computed vector

$$u^{(2)} = \begin{pmatrix} 5.571428 \\ 9.57142 \\ 12.21423 \end{pmatrix}$$

Select the correct option

[Reload Mat](#)

- | | |
|----------------------------------|--|
| ☒ | $u^{(2)} = 12.21423 \begin{pmatrix} 0.456142 \\ 0.783628 \\ 1 \end{pmatrix}$ |
| ☐ | $u^{(2)} = 9.57142 \begin{pmatrix} 0.582090 \\ 1 \\ 1.276142 \end{pmatrix}$ |
| ☐ | $u^{(2)} = 5.571428 \begin{pmatrix} 1 \\ 1.717938 \\ 2.192286 \end{pmatrix}$ |
| ☐ | $u^{(2)} = 3.523498 \begin{pmatrix} 1 \\ 1.876547 \\ 2.937987 \end{pmatrix}$ |

Question # 5 of 10 (Start time: 03:23:27 PM, 17 December 2020)

For two matrices A and B, such that "A = Inverse of B", then which of the following is true?

Select the correct option

☐ B = Inverse of A

☐ A and B are non-singular

☐ AB = Identity Matrix

☒ All choices are true

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MTH603:Quiz no.1

Question # 6 of 10 (Start time: 03:23:41 PM, 17 December 2020)

Relaxation Method is a/an

Select the correct option



Direct method



Iterative method

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Question # 7 of 10 (Start time: 03:23:54 PM, 17 December 2020)

Which of the following is equivalent form of the system of equations in matrix form; $AX=B$?

Select the correct option

- | | |
|----------------------------------|-------------------------------|
| ☐ | $XA = B$ |
| ☐ | $X = B(\text{Inverse of } A)$ |
| ☒ | $X = (\text{Inverse of } A)B$ |
| ☐ | $BX = A$ |

Question # 8 of 10 (Start time: 03:24:09 PM, 17 December 2020)

Total

Jacobi's method is highly recommended for matrix to compute all the Eigen values and the corresponding eigenvectors.

Select the correct option

☒	real symmetric
☐	non real symmetric
☐	real un-symmetric
☐	None of the given choices

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Question # 9 of 10 (Start time: 03:24:23 PM, 17 December 2020)

To

Gauss elimination and Gauss-Jordan methods are popular among many methods for finding theof a matrix.

Select the correct option

☐	Identity
☐	Transpose
☒	Inverse
☐	None of the given choices

Question # 10 of 10 (Start time: 03:24:41 PM, 17 December 2020)

Total Ma

Let $[A]$ be a 3×3 real symmetric matrix with

$$|a_{12}|$$

be numerically the largest off-diagonal element of A , then we can construct orthogonal matrix S_1 by Jacobi's method as

Select the correct option

[Reload Math Equati](#)

- | | |
|----------------------------------|---|
| ☐ | $\begin{bmatrix} 1 & 0 & 0 \\ 0 & \cos \theta & -\sin \theta \\ 0 & \sin \theta & -\sin \theta \end{bmatrix}$ |
| ☐ | $\begin{bmatrix} \cos \theta & 0 & -\sin \theta \\ 0 & 1 & 0 \\ \sin \theta & 0 & \cos \theta \end{bmatrix}$ |
| ☐ | $\begin{bmatrix} 1 & 0 & 0 \\ 0 & \cos \theta & -\sin \theta \\ 0 & \sin \theta & \cos \theta \end{bmatrix}$ |
| ☒ | $\begin{bmatrix} \cos \theta & -\sin \theta & 0 \\ \sin \theta & \cos \theta & 0 \\ 0 & 0 & 1 \end{bmatrix}$ |