RIZ MUGHAL

QUIZ MASTER

MTH401(41 TO 44)

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

MTH401:Quiz No. 3 Quiz Start Time: 12:45 PM, 06 September

Question # 1 of 10 (Start time: 12:45:21 PM, 06 September 2020) Total Mar

For finding the general solution of the non-homogeneous system of linear differential equations we need to find _____.

Select the correct option

- complementary function
- Particular solution
- Singular solution
- Both complementary and particular solution

MTH401:Quiz No. 3 Quiz Start Time

Question # 2 of 10 (Start time: 12:45:49 PM, 06 September 2020)

The Eigen values of homogeneous system

$$X' = \begin{pmatrix} -3 & 1 \\ 2 & 4 \end{pmatrix} X$$

Select the correct option

- (●) $\lambda_1 = -2, \lambda_2 = -5$
- ( ) $\lambda_1 = 2, \lambda_2 = -5$
- ( ) $\lambda_1 = 2, \lambda_2 = 5$
- ( ) $\lambda_1 = -2, \lambda_2 = 5$

MTH401:Quiz No. 3 Quiz Start

Question # 3 of 10 (Start time: 12:46:13 PM, 06 September 2020)

If the coefficient matrix A in the homogeneous system of differential equations

$$\frac{dX}{dt} = AX$$

Select the correct option

○	real
◉	imaginary
○	both real and imaginary
○	none of them

MTH401:Quiz No. 3 Quiz Start Time: 12:45 PM.

Question # 4 of 10 (Start time: 12:46:40 PM. 06 September 2020)

The characteristic equation of 1st order homogeneous differential equation

$$\frac{dX}{\cdot} = AX \quad is$$

Select the correct option

Reloa

○	$del(X - \lambda I) = 0$
○	$del(A - \lambda I) \neq 0$
○	$del(A - \lambda X) = 0$
◉	$del(A - \lambda I) = 0$

MTH401:Quiz No. 3 Quiz Start Time: 12:45 P

Question # 5 of 10 (Start time: 12:47:00 PM, 06 September 2020)

Eigenvalues of the following homogeneous system of Differential equation

$$\frac{dx}{dt} = x + y, \frac{dy}{dt} = -y$$

Select the correct option

Rel

◉	$\lambda = 1, -1$
○	$\lambda = -1, -1$
○	$\lambda = 1, 1$
○	None of them

MTH401:Quiz No. 3 Quiz Start Time

Question # 6 of 10 (Start time: 12:47:18 PM, 06 September 2020)

$$A = \begin{pmatrix} 3 & 4 \\ -1 & 7 \end{pmatrix}$$

has an Eigen value of multiplicity_____.

Select the correct option

- 0
- 1
- 2
- 3

MTH401:Quiz No. 3 Quiz Start Time:

Question # 7 of 10 (Start time: 12:47:41 PM, 06 September 2020)

The vectors

$$X_1 = \begin{pmatrix} 1 \\ 2 \end{pmatrix} e^{2t}, X_2 = \begin{pmatrix} 2 \\ 4 \end{pmatrix} e^{2t}$$

Select the correct option

- (●) linear dependent
- ( ) linear independent

MTH401:Quiz No. 3 Quiz Start Time: 12:45 PM.

Question # 8 of 10 (Start time: 12:48:02 PM, 06 September 2020)

The Wronskian of the solution vectors X_1 and X_2 is

$$W(X_1, X_2) = \begin{vmatrix} e^x & e^{-x} \\ e^x & -e^{-x} \end{vmatrix}$$

Select the correct option

Reloa

- $W(X_1, X_2) = 2$
- $W(X_1, X_2) = 2e^x$
- $W(X_1, X_2) = -2$
- $W(X_1, X_2) = -2e^x$

MTH401:Quiz No. 3 Quiz Start Time: 12:45 PM. (

Question # 9 of 10 (Start time: 12:48:32 PM. 06 September 2020)

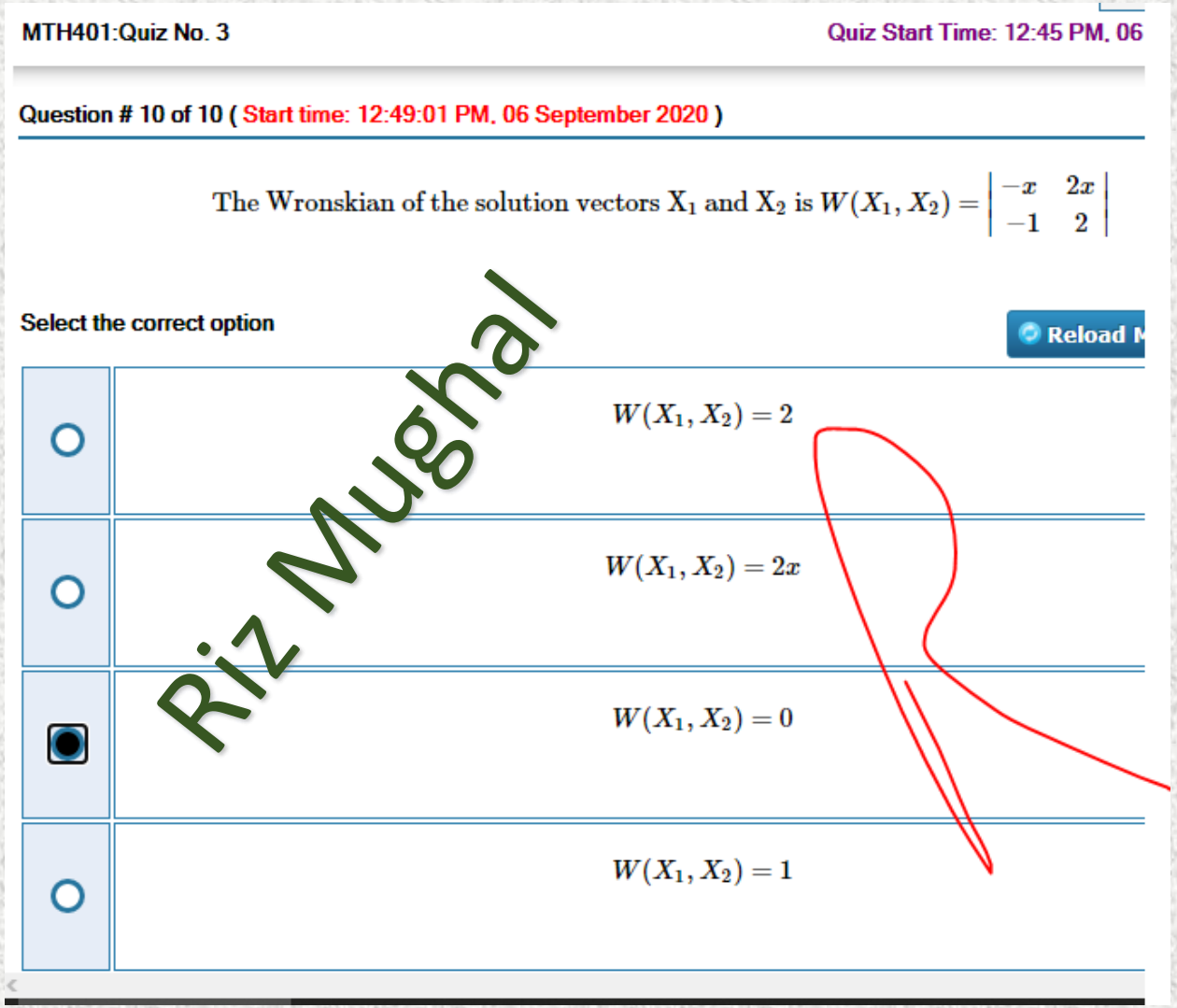
The characteristic equation of 1st order homogeneous differential equation

$$\begin{bmatrix} \frac{dx}{dt} \\ \vdots \end{bmatrix} \quad \begin{bmatrix} 1 & 2 \end{bmatrix} \begin{bmatrix} x \end{bmatrix}$$

Select the correct option

Reload

- $del(X - \lambda I) = \begin{vmatrix} x - \lambda & 2 \end{vmatrix}$
- $del(A - \lambda I) = \begin{vmatrix} 1 - \lambda & 2 \end{vmatrix}$
- $del(A + \lambda I) = \begin{vmatrix} 1 + \lambda & 2 \end{vmatrix}$
- $del(A - \lambda I) = \begin{vmatrix} 1 & 2 - \lambda \end{vmatrix}$



2nd account

MTH401:Quiz No. 3 Quiz Start Time:

Question # 1 of 10 (Start time: 01:00:16 PM, 06 September 2020)

The vectors

$$X_1 = \begin{pmatrix} 1 \\ 2 \end{pmatrix} e^{2t}, X_2 = \begin{pmatrix} 2 \\ 4 \end{pmatrix} e^{2t}$$

Select the correct option

- (●) linear dependent
- ( ) linear independent

MTH401:Quiz No. 3 Quiz Start Time: 01:00 PM, 06 Septem

Question # 2 of 10 (Start time: 01:00:37 PM, 06 September 2020) Tota

The characteristic equation of 1st order homogeneous differential equation

$$\frac{dX}{\cdot} = AX \quad is$$

Select the correct option

Reload Math Eq

- $del(X - \lambda I) = 0$
- $del(A - \lambda I) \neq 0$
- $del(A - \lambda X) = 0$
- $del(A - \lambda I) = 0$

MTH401:Quiz No. 3 Quiz Start Time: 01:00 PM, 06 Se

Question # 3 of 10 (Start time: 01:00:57 PM, 06 September 2020)

For finding the general solution of the non-homogeneous system of linear differential equations we need to find _____

Select the correct option

- ○ complementary function
- ○ Particular solution
- ○ Singular solution
- ◉ Both complementary and particular solution

Riz Mughal

MTH401:Quiz No. 3 Quiz Start Time: 01:00 PM, 06 Se

Question # 4 of 10 (Start time: 01:01:15 PM, 06 September 2020)

The characteristic equation of 1st order homogeneous differential equation

$$\begin{bmatrix} \frac{dx}{dt} \\ \vdots \end{bmatrix} \quad \begin{bmatrix} 1 & 2 \end{bmatrix} \begin{bmatrix} x \end{bmatrix}$$

Select the correct option

Reload Mat

- $del(X - \lambda I) = \begin{vmatrix} x - \lambda & 2 \end{vmatrix}$
- $del(A - \lambda I) = \begin{vmatrix} 1 - \lambda & 2 \end{vmatrix}$
- $del(A + \lambda I) = \begin{vmatrix} 1 + \lambda & 2 \end{vmatrix}$
- $del(A - \lambda I) = \begin{vmatrix} 1 & 2 - \lambda \end{vmatrix}$

MTH401:Quiz No. 3 Quiz Start Time:

Question # 5 of 10 (Start time: 01:01:36 PM, 06 September 2020)

If the coefficient matrix A in the homogeneous system of differential equations

$$\frac{dX}{dt} = AX$$

Select the correct option

- real
- imaginary
- both real and imaginary
- none of them

MTH401:Quiz No. 3

Question # 6 of 10 (Start time: 01:02:00 PM, 06 September 2020)

If Wroskian of the solution vectors $X_1 \& X_2$

is non zero then vectors are _____.

Select the correct option

○	parallel
○	perpendicular
○	linear dependent
◉	linear independent

MTH401:Quiz No. 3 Quiz Start

Question # 7 of 10 (Start time: 01:02:20 PM, 06 September 2020)

The matrix

$$A = \begin{pmatrix} 3 & 4 \\ -1 & 7 \end{pmatrix}$$

Select the correct option

- 0
- 1
- 2 (selected)
- 3

MTH401:Quiz No. 3 Quiz Start Time: 01:00 PM, 06 Sep

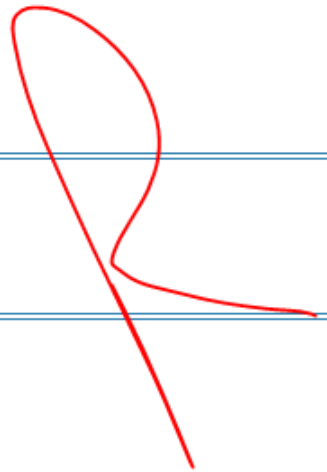
Question # 8 of 10 (Start time: 01:02:39 PM, 06 September 2020) T

The Wronskian of the solution vectors X_1 and X_2 is $W(X_1, X_2) = \begin{vmatrix} -x & 2x \\ -1 & 2 \end{vmatrix}$

Select the correct option

Reload Math

- $W(X_1, X_2) = 2$
- $W(X_1, X_2) = 2x$
- $W(X_1, X_2) = 0$
- $W(X_1, X_2) = 1$



MTH401:Quiz No. 3 Quiz Start Time: 01:00 PM

Question # 9 of 10 (Start time: 01:03:05 PM, 06 September 2020)

The Wronskian of the solution vectors X_1 and X_2 is

$$W(X_1, X_2) = \begin{vmatrix} e^x & e^{-x} \\ e^x & -e^{-x} \end{vmatrix}$$

Select the correct option

Relo

- $W(X_1, X_2) = 2$
- $W(X_1, X_2) = 2e^x$
- $W(X_1, X_2) = -2$ (selected)
- $W(X_1, X_2) = -2e^x$

MTH401:Quiz No. 3 Quiz Start Time

Question # 10 of 10 (Start time: 01:03:26 PM, 06 September 2020)

The Eigen values of homogeneous system

$$X' = \begin{pmatrix} -3 & 1 \\ 2 & 4 \end{pmatrix} X$$

Select the correct option

◉	$\lambda_1 = -2, \lambda_2 = -5$
○	$\lambda_1 = 2, \lambda_2 = -5$
○	$\lambda_1 = 2, \lambda_2 = 5$
○	$\lambda_1 = -2, \lambda_2 = 5$

3rd account

MTH401:Quiz No. 3 Quiz Start

Question # 1 of 10 (Start time: 05:05:46 PM, 06 September 2020)

If the coefficient matrix A in the homogeneous system of differential equations

$$\frac{dX}{dt} = AX$$

Select the correct option

- real
- imaginary
- both real and imaginary
- none of them

MTH401:Quiz No. 3 Qui

Question # 2 of 10 (Start time: 05:06:06 PM, 06 September 2020)

$$A = \begin{pmatrix} 3 & 4 \\ -1 & 7 \end{pmatrix}$$

has an Eigen value of multiplicity_____.

Select the correct option

- 0
- 1
- 2
- 3

MTH401:Quiz No. 3 Quiz Start Time: 05:05 PM.

Question # 3 of 10 (Start time: 05:06:23 PM, 06 September 2020)

The Wronskian of the solution vectors X_1 and X_2 is

$$W(X_1, X_2) = \begin{vmatrix} e^x & e^{-x} \\ e^x & -e^{-x} \end{vmatrix}$$

Select the correct option

Reloa

○	$W(X_1, X_2) = 2$
○	$W(X_1, X_2) = 2e^x$
◉	$W(X_1, X_2) = -2$
○	$W(X_1, X_2) = -2e^x$

MTH401:Quiz No. 3 Quiz Start Time: 05:05 PM. (

Question # 4 of 10 (Start time: 05:06:43 PM, 06 September 2020)

The characteristic equation of 1st order homogeneous differential equation

$$\begin{bmatrix} \frac{dx}{dt} \\ \end{bmatrix} \quad \begin{bmatrix} 1 & 2 \end{bmatrix} \begin{bmatrix} x \end{bmatrix}$$

Select the correct option

Reload

- $del(X - \lambda I) = \begin{vmatrix} x - \lambda & 2 \end{vmatrix}$
- $del(A - \lambda I) = \begin{vmatrix} 1 - \lambda & 2 \end{vmatrix}$
- $del(A + \lambda I) = \begin{vmatrix} 1 + \lambda & 2 \end{vmatrix}$
- $del(A - \lambda I) = \begin{vmatrix} 1 & 2 - \lambda \end{vmatrix}$

MTH401:Quiz No. 3 Quiz Start T

Question # 5 of 10 (Start time: 05:07:04 PM, 06 September 2020)

Eigenvalues of the following homogeneous system of Differential equation

$$\frac{dx}{dt} = x + y, \frac{dy}{dt} = -y$$

Select the correct option

◉	$\lambda = 1, -1$
○	$\lambda = -1, -1$
○	$\lambda = 1, 1$
○	None of them

MTH401:Quiz No. 3 Quiz Start Time: 05:05 PM, 06

Question # 6 of 10 (Start time: 05:07:27 PM, 06 September 2020)

The Wronskian of the solution vectors X_1 and X_2 is $W(X_1, X_2) = \begin{vmatrix} -x & 2x \\ -1 & 2 \end{vmatrix}$

Select the correct option

Reload M

- $W(X_1, X_2) = 2$
- $W(X_1, X_2) = 2x$
- (●) $W(X_1, X_2) = 0$
- $W(X_1, X_2) = 1$

MTH401:Quiz No. 3 Quiz Start Time: 05:05 PM

Question # 7 of 10 (Start time: 05:07:56 PM, 06 September 2020)

The characteristic equation of 1st order homogeneous differential equation

$$\frac{dX}{} = AX \quad is$$

Select the correct option

Reloa

○	$del(X - \lambda I) = 0$
○	$del(A - \lambda I) \neq 0$
○	$del(A - \lambda X) = 0$
◉	$del(A - \lambda I) = 0$

MTH401:Quiz No. 3 Quiz Start Time:

Question # 8 of 10 (Start time: 05:08:18 PM, 06 September 2020)

The Eigen values of homogeneous system

$$X' = \begin{pmatrix} -3 & 1 \\ 2 & 4 \end{pmatrix} X$$

Select the correct option

●	$\lambda_1 = -2, \lambda_2 = -5$
○	$\lambda_1 = 2, \lambda_2 = -5$
○	$\lambda_1 = 2, \lambda_2 = 5$
○	$\lambda_1 = -2, \lambda_2 = 5$

MTH401:Quiz No. 3 Quiz Start Time: 05:05 PM, 06 Septe

Question # 9 of 10 (Start time: 05:08:39 PM, 06 September 2020) Tota

For finding the general solution of the non-homogeneous system of linear differential equations we need to find _____

Select the correct option

- complementary function
- Particular solution
- Singular solution
- [x] Both complementary and particular solution

MTH401:Quiz No. 3 Quiz Start Time: 05:05

Question # 10 of 10 (Start time: 05:08:58 PM, 06 September 2020)

$$\begin{pmatrix} 1 & 1 \\ 0 & -1 \end{pmatrix}$$

has an Eigen value of multiplicity_____.

Select the correct option

●	0
○	1
○	2
○	3

4th account

MTH401:Quiz No. 3 Quiz Start Time: 05:10 PM, 0

Question # 1 of 10 (Start time: 05:10:37 PM, 06 September 2020)

The characteristic equation of 1st order homogeneous differential equation

$$\begin{bmatrix} \frac{dx}{dt} \\ \end{bmatrix} \begin{bmatrix} 1 & 2 \end{bmatrix} \begin{bmatrix} x \end{bmatrix}$$

Select the correct option

Reload

○	$del(X - \lambda I) = \begin{vmatrix} x-\lambda & 2 \end{vmatrix}$
◉	$del(A - \lambda I) = \begin{vmatrix} 1-\lambda & 2 \end{vmatrix}$
○	$del(A + \lambda I) = \begin{vmatrix} 1+\lambda & 2 \end{vmatrix}$
○	$del(A - \lambda I) = \begin{vmatrix} 1 & 2-\lambda \end{vmatrix}$

MTH401:Quiz No. 3 Quiz Start Tim

Question # 2 of 10 (Start time: 05:10:58 PM, 06 September 2020)

Eigenvalues of the following homogeneous system of Differential equation

$$\frac{dx}{dt} = x + y, \frac{dy}{dt} = -y$$

Select the correct option

◉	$\lambda = 1, -1$
○	$\lambda = -1, -1$
○	$\lambda = 1, 1$
○	None of them

MTH401:Quiz No. 3 Quiz Sta

Question # 3 of 10 (Start time: 05:11:20 PM, 06 September 2020)

If the coefficient matrix A in the homogeneous system of differential equations

$$\frac{dX}{dt} = AX$$

Select the correct option

○	real
◉	imaginary
○	both real and imaginary
○	none of them

MTH401:Quiz No. 3 Quiz Star

Question # 4 of 10 (Start time: 05:11:39 PM, 06 September 2020)

The matrix

$$A = \begin{pmatrix} 3 & 4 \\ -1 & 7 \end{pmatrix}$$

Select the correct option

- ○ 0
- ○ 1
- ◉ 2
- ○ 3

MTH401:Quiz No. 3 Quiz

Question # 5 of 10 (Start time: 05:11:51 PM, 06 September 2020)

$$\begin{pmatrix} 1 & 1 \\ 0 & -1 \end{pmatrix}$$

has an Eigen value of multiplicity_____.

Select the correct option

- [x] 0
- [ ] 1
- [ ] 2
- [ ] 3

MTH401:Quiz No. 3 Quiz Star

Question # 6 of 10 (Start time: 05:12:13 PM, 06 September 2020)

The Eigen values of homogeneous system

$$X' = \begin{pmatrix} -3 & 1 \\ 2 & 4 \end{pmatrix} X$$

Select the correct option

●	$\lambda_1 = -2, \lambda_2 = -5$
○	$\lambda_1 = 2, \lambda_2 = -5$
○	$\lambda_1 = 2, \lambda_2 = 5$
○	$\lambda_1 = -2, \lambda_2 = 5$

MTH401:Quiz No. 3 Quiz Start Time: 05:10 PM, 06

Question # 7 of 10 (Start time: 05:12:39 PM, 06 September 2020)

The Wronskian of the solution vectors X_1 and X_2 is $W(X_1, X_2) = \begin{vmatrix} -x & 2x \\ -1 & 2 \end{vmatrix}$

Select the correct option

Reload M

- $W(X_1, X_2) = 2$
- $W(X_1, X_2) = 2x$
- $W(X_1, X_2) = 0$
- $W(X_1, X_2) = 1$

MTH401:Quiz No. 3 Quiz Start Time: 05:10 PM.

Question # 8 of 10 (Start time: 05:13:01 PM, 06 September 2020)

The Wronskian of the solution vectors X_1 and X_2 is

$$W(X_1, X_2) = \begin{vmatrix} e^x & e^{-x} \\ e^x & -e^{-x} \end{vmatrix}$$

Select the correct option

Reloa

○	$W(X_1, X_2) = 2$
○	$W(X_1, X_2) = 2e^x$
◉	$W(X_1, X_2) = -2$
○	$W(X_1, X_2) = -2e^x$

MTH401:Quiz No. 3 Quiz Start Time: 05:10 PM, 06 S

Question # 9 of 10 (Start time: 05:13:27 PM, 06 September 2020)

The characteristic equation of 1st order homogeneous differential equation

$$\frac{dX}{} = AX \quad is$$

Select the correct option

Reload Ma

○	$del(X - \lambda I) = 0$
○	$del(A - \lambda I) \neq 0$
○	$del(A - \lambda X) = 0$
◉	$del(A - \lambda I) = 0$

MTH401:Quiz No. 3 Quiz Start Ti

Question # 10 of 10 (Start time: 05:13:48 PM, 06 September 2020)

The vectors

$$X_1 = \begin{pmatrix} 1 \\ 2 \end{pmatrix} e^{2t}, X_2 = \begin{pmatrix} 2 \\ 4 \end{pmatrix} e^{2t}$$

Select the correct option

- (●) linear dependent
- ( ) linear independent

5th account

MTH401:Quiz No. 3 Quiz Sta

Question # 1 of 10 (Start time: 05:15:05 PM, 06 September 2020)

The matrix

$$A = \begin{pmatrix} 3 & 4 \\ -1 & 7 \end{pmatrix}$$

Select the correct option

- ○ 0
- ○ 1
- ◉ 2
- ○ 3

MTH401:Quiz No. 3 Quiz Sta

Question # 2 of 10 (Start time: 05:15:20 PM, 06 September 2020)

If Wroskian of the solution vectors

$$X_1 \& X_2$$

is non zero then vectors are _____.

Select the correct option

○	parallel
○	perpendicular
○	linear dependent
◉	linear independent

MTH401:Quiz No. 3 Quiz Start Time: 05:15 PM.

Question # 3 of 10 (Start time: 05:15:36 PM, 06 September 2020)

The characteristic equation of 1st order homogeneous differential equation

$\frac{dX}{dt} = AX$ *is*

Select the correct option

Reloa

○	$del(X - \lambda I) = 0$
○	$del(A - \lambda I) \neq 0$
○	$del(A - \lambda X) = 0$
◉	$del(A - \lambda I) = 0$

MTH401:Quiz No. 3 Quiz Start Time: 05:15

Question # 4 of 10 (Start time: 05:15:52 PM, 06 September 2020)

Eigenvalues of the following homogeneous system of Differential equation

$$\frac{dx}{dt} = x + y, \frac{dy}{dt} = -y$$

Select the correct option

●	$\lambda = 1, -1$
○	$\lambda = -1, -1$
○	$\lambda = 1, 1$
○	None of them

MTH401:Quiz No. 3 Quiz Start Time: 05:15 PM, 06 September 2

Question # 5 of 10 (Start time: 05:16:08 PM, 06 September 2020) Total Mark

For finding the general solution of the non-homogeneous system of linear differential equations we need to find _____.

Select the correct option

- complementary function
- Particular solution
- Singular solution
- Both complementary and particular solution

MTH401:Quiz No. 3 Quiz Start Ti

Question # 6 of 10 (Start time: 05:16:17 PM, 06 September 2020)

If the coefficient matrix A in the homogeneous system of differential equations

$$\frac{dX}{dt} = AX$$

Select the correct option

- real
- imaginary
- both real and imaginary
- none of them

MTH401:Quiz No. 3 Qui

Question # 7 of 10 (Start time: 05:16:35 PM, 06 September 2020)

The matrix A=

$$\begin{pmatrix} 1 & 1 \\ 0 & -1 \end{pmatrix}$$

Select the correct option

◉	0
○	1
○	2
○	3

MTH401:Quiz No. 3 Quiz Start Time: 05:15 P

Question # 8 of 10 (Start time: 05:16:52 PM, 06 September 2020)

The characteristic equation of 1st order homogeneous differential equatio

$$\begin{bmatrix} \frac{dx}{dt} \\ \frac{dy}{dt} \end{bmatrix} \quad \begin{bmatrix} 1 & 2 \end{bmatrix} \begin{bmatrix} x \end{bmatrix}$$

Select the correct option

Rel

○	$del(X - \lambda I) = \begin{vmatrix} x - \lambda & 2 \end{vmatrix}$
◉	$del(A - \lambda I) = \begin{vmatrix} 1 - \lambda & 2 \end{vmatrix}$
○	$del(A + \lambda I) = \begin{vmatrix} 1 + \lambda & 2 \end{vmatrix}$
○	$del(A - \lambda I) = \begin{vmatrix} 1 & 2 - \lambda \end{vmatrix}$

MTH401:Quiz No. 3 Quiz Start

Question # 9 of 10 (Start time: 05:17:08 PM, 06 September 2020)

The vectors

$$X_1 = \begin{pmatrix} 1 \\ 2 \end{pmatrix} e^{2t}, X_2 = \begin{pmatrix} 2 \\ 4 \end{pmatrix} e^{2t}$$

Select the correct option

- (●) linear dependent
- ( ) linear independent

Click to Save Ar

MTH401:Quiz No. 3 Quiz Start Time: 05:15 PM.

Question # 10 of 10 (Start time: 05:17:25 PM. 06 September 2020)

The Wronskian of the solution vectors X_1 and X_2 is $W(X_1, X_2) = \begin{vmatrix} -x & 2x \\ -1 & 2 \end{vmatrix}$

Select the correct option

Reloa

- $W(X_1, X_2) = 2$
- $W(X_1, X_2) = 2x$
- $W(X_1, X_2) = 0$
- $W(X_1, X_2) = 1$