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Std.ld: 16602

BSSE- 2nd Semester

Department of Computer Science Final Term Assignment Linear Algebra

	10. 16602	
	BSSE	
	Muhammad Anmay	
		_
		5
Qı	Determine the following	-
	System Consistant or not.	_
	$\frac{1}{\chi_1 - 6\chi_2 + \chi_3 = 0}$	
*	$2x_{2}-8x_{3}=8$	
	$5x_1 - 5x_3 = 10$	
	1 -6 1:07	
	2 -8 : 8	
-	5 0 -5 : 10	
	[1 -6 1:0]	
	0 2 -8:8 R3+5R1	
	(0 30 -10:10)	
	(1 : 07	
	$0 2 -8 = 8 R_3 + 5R_1$	
	2 5 10	,
	It is a consistant	=
	$x_1 - 6x_2 + x_3 = 0$	_
	$+2x_2-8x_3=8$	L
400	$-5\chi_3 = 10_{Abdul Wahab Paper}$	

Q2	Find the invexse of
	$A = \begin{bmatrix} 3 & 4 & 5 \\ 2 & 1 & 0 \\ 5 & -2 & 7 \end{bmatrix}$ by adjoint
	method.
	IAI = 3 4 5
	= 3 + 0 - 4 2 0 + 5 2 - 1 $-2 7 5 7 5 - 2$
	= 3(-7+2)-4(14-0)+5(10+5)
	= 3(-5)-4(14)+5(15)
	= -15-56+75
	IAI = 4 Copactor formula
	$A_{(1)} = (-1)^{1+1} - 1 = 0$
	$\frac{1+2}{1+2}$
	A12=(-1) 5 7 =-1(14-0)=-14
	$A_{13} = (-1)^{1+3} _{2=-1}^{1} = 1(-4+5) = 1$
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$A_{21} = (-1)^{1/4} = -1(14+10) = -24$
1-2-71
$A_{22} = (-1)^{1/2} = (-1)^{1$
2+3 9 1
$A_{23} = (-1)^{2+3} \begin{vmatrix} 3 & 4 \\ 5 & -2 \end{vmatrix} = -1(-6-20) = 76$
$\bigcap_{(3+)} \bigcup_{(3+)} \bigcup$
$\frac{1}{1} = \frac{1}{3} = \frac{1}$
$\overline{H}_{32} = (-1)^{3+2} _3$ $5 _{=-1} (0-10) = 10$
2 0
3+3 10
-1/3 = (-1) $ 3 4 = 1(-3-8) = -11$
[2-1]
Find the adjoint matrix becomes
Adi A = 1-7 - 14 1 7=
94 -22 26
1-5 10 -11
$Adj A = \begin{bmatrix} -7 & 24 & -5 \\ 14 & -22 & 10 \end{bmatrix}$
26 -11
A= HadiA= 1-1 29 -5
[26 -11]
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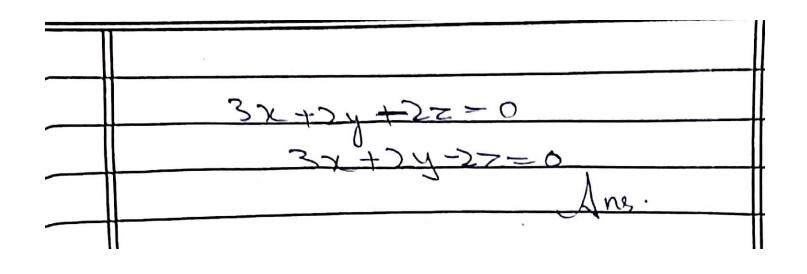
	=1 (-7/4 24/4 -5/4)
	H= /14/4 -22/4 10/4
	[1/4 26/4 11/4
	A= (-7/4 6 -5/4)
	国力。 -11/2 5/2 11/4 13/2 11/4 入ne
	19 172 11/4) Ans
03	Solve the following of linear
	equation by Guass Toxdon
	Method- 27+24+4z=18
	x + 3y + 2z = 13
	By use Quass Grandan Method
	$\begin{bmatrix} 2 & 2 & 4 \\ 1 & 3 & 2 \\ 3 & 2 & -3 \end{bmatrix} \begin{bmatrix} 2 \\ 4 \\ 4 \end{bmatrix} = \begin{bmatrix} 18 \\ 13 \\ 14 \end{bmatrix}$
=	$H_b = \begin{bmatrix} 2 & 2 & 4 & 18 \\ 1 & 3 & 2 & 13 \\ 3 & 2 & -3 & 14 \end{bmatrix}$
	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$
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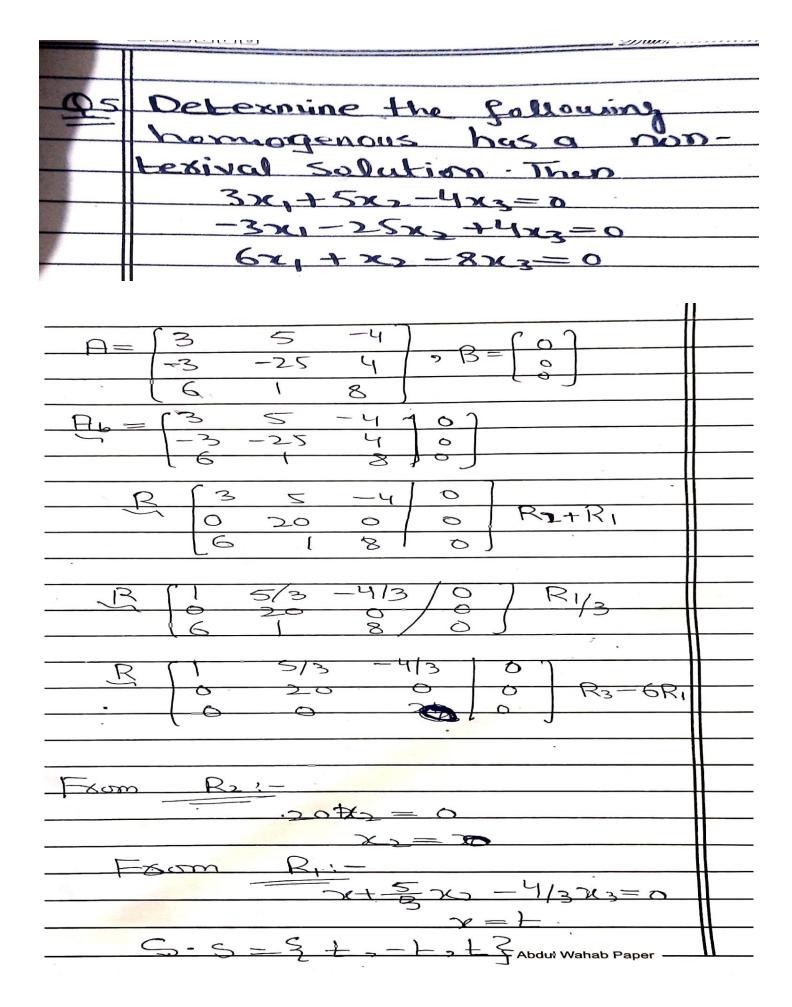
11	
	p (1 3 ² 13)
	0 -4 0 -48 R3-2R)
	[3 2 -3/+12]
	R 0 -4 0 -8 R3-3R1
	(0-7-9/-12)
	R 0 -4 0 -8 - R3
	0 0 9/7 / 12/7
	Which is echelon form
	FXOm R3 !-
	0x + 0y + 9 = 12
-	
	0x - 4y + 0z = -8
	<u> </u>
	1-xm R1=-
	x + 3y + 2x = 13
	x+3(2)+3(2)=13 x+6+3(2)=13
	$Sol-sel = \frac{5}{5}(28), 22-91/3$
	(2) 3237/21)
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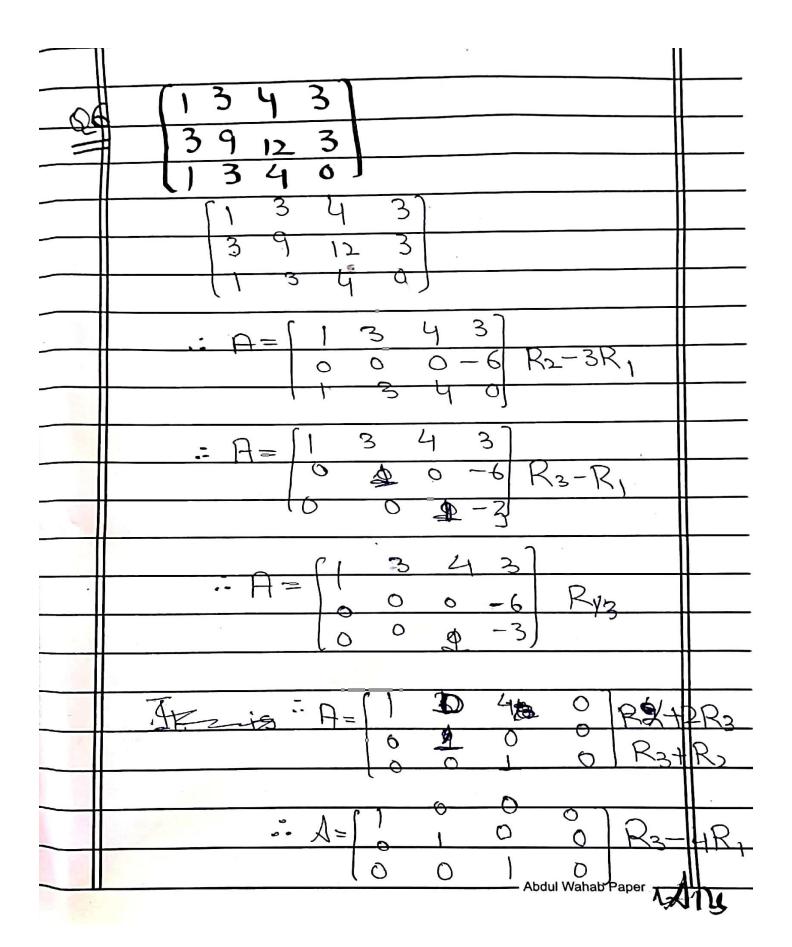
Qy	Show that this matrix	
	is Diagonsiable:-	
	y 2 -2	
	$\begin{vmatrix} 4 & 2 & -2 \\ -5 & 3 & 2 \\ -2 & 4 & 1 \end{vmatrix}$	
	f -x =0	8
	$\frac{14-x}{-3}$ $\frac{2}{4}$ $\frac{-2}{1-x}$	
	$C_1 \rightarrow C_1 + C_2 + C_3$	
	$\begin{vmatrix} -1 - x & 2 & -1 \\ -1 - x & 3 = x & 2 & = 0 \\ -1 - x & 4 & 1 - x \end{vmatrix}$	
	$(-1-x)$ $\begin{vmatrix} 1 & 2 & 2 & 1 \\ 1 & 3-x & 2 & 1 \\ 4 & 1-x & 1 \end{vmatrix} = 0$	
	R_2-R_1	
	$-(1+x)$ $\begin{vmatrix} 1 & 2 & -2 \\ 0 & 1-x & 4 \end{vmatrix}$	
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bools:8 **AWP** MTWTFS (1-x)(3-x)-8 $A \times A = A \times A$ where Q 0 R9/5 R2-2R2 -2 0 -2/5 -2/50 3 2 0 0 0 bdul Wahab Paper -







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