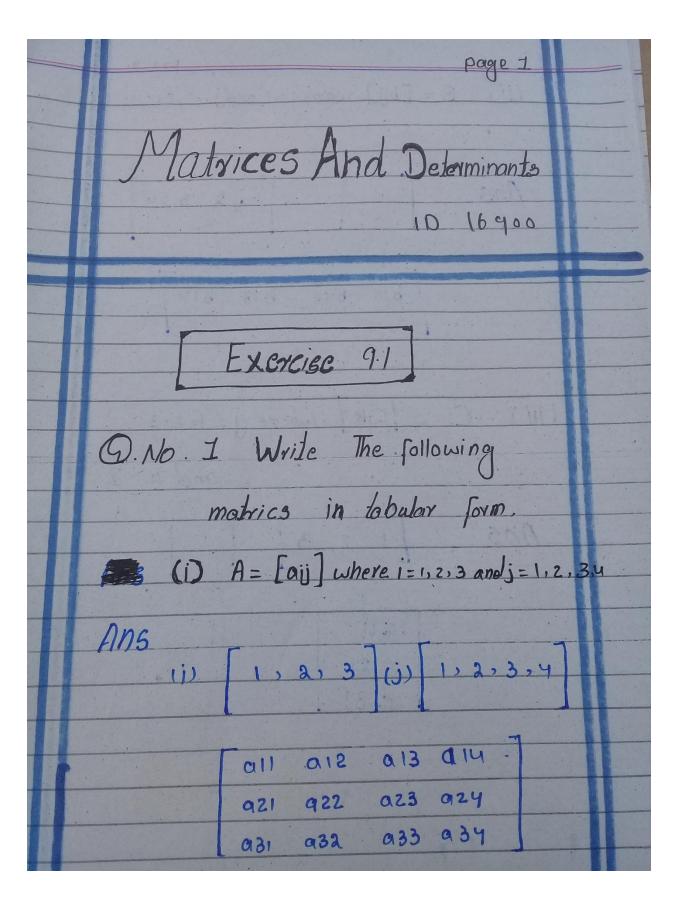
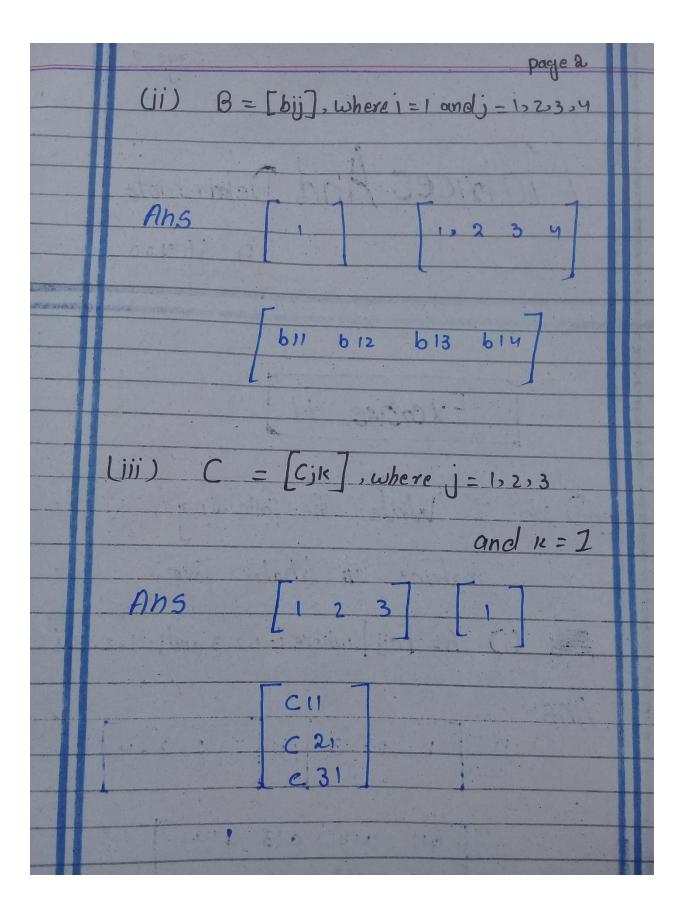
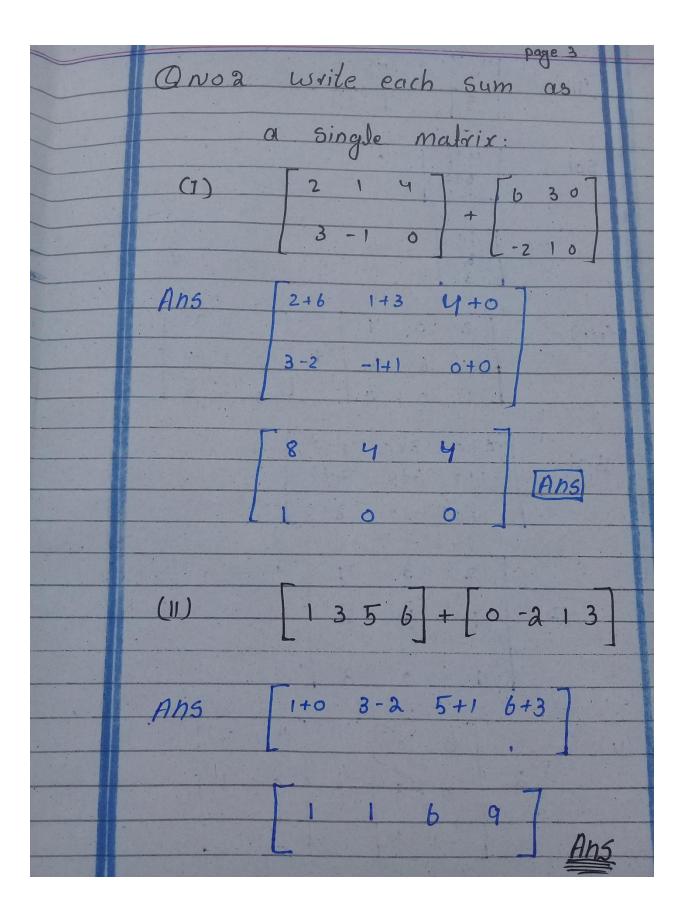
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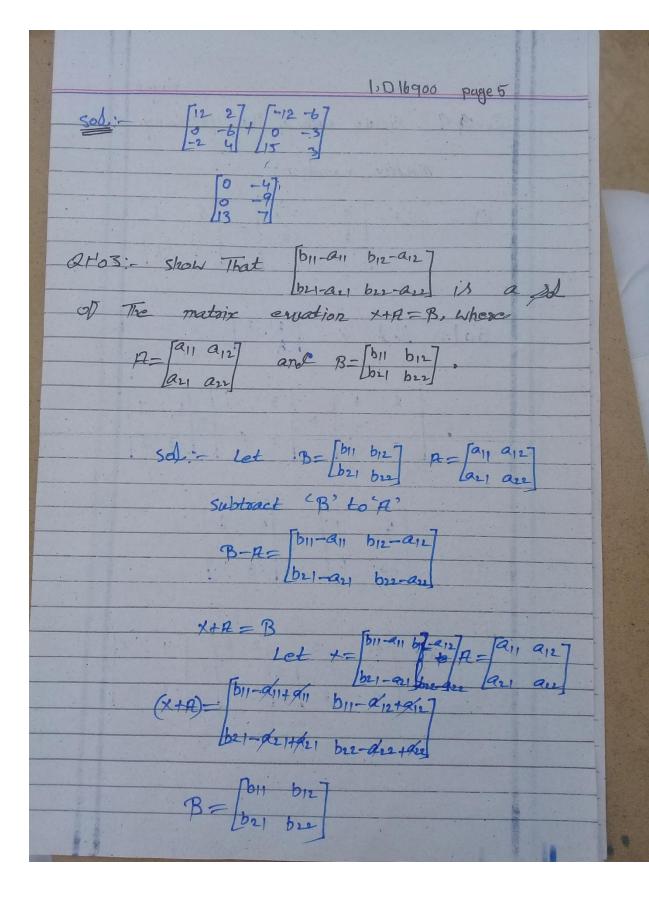
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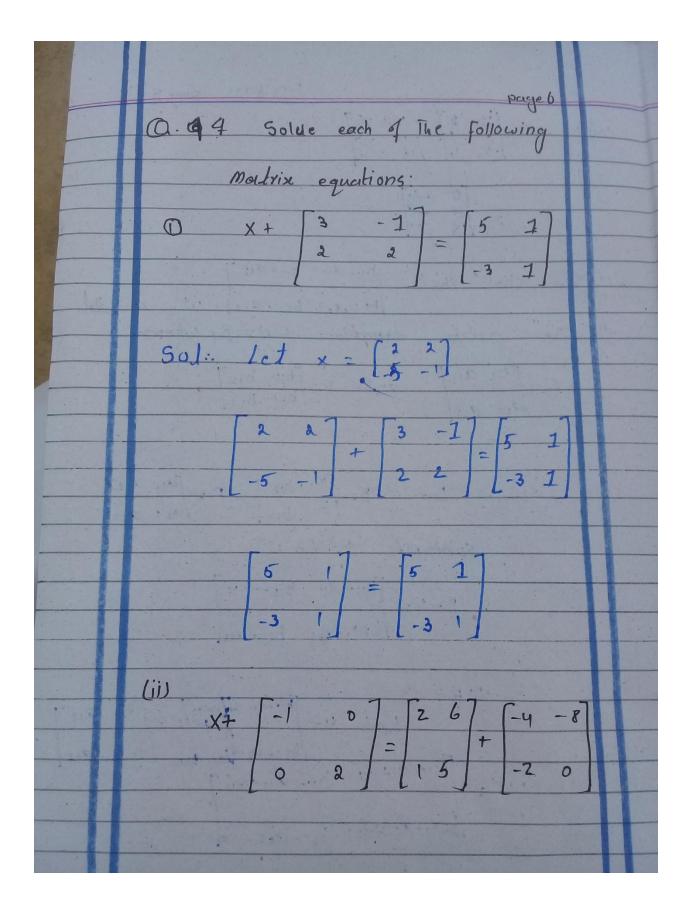
[SUBMIT TO SIR Muhammad Abrar Khan]

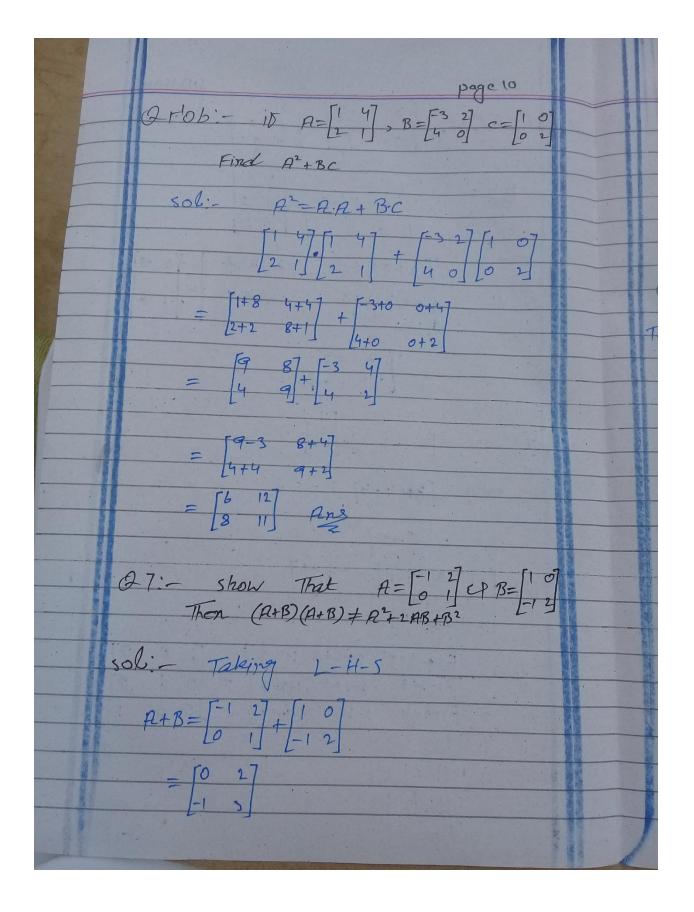






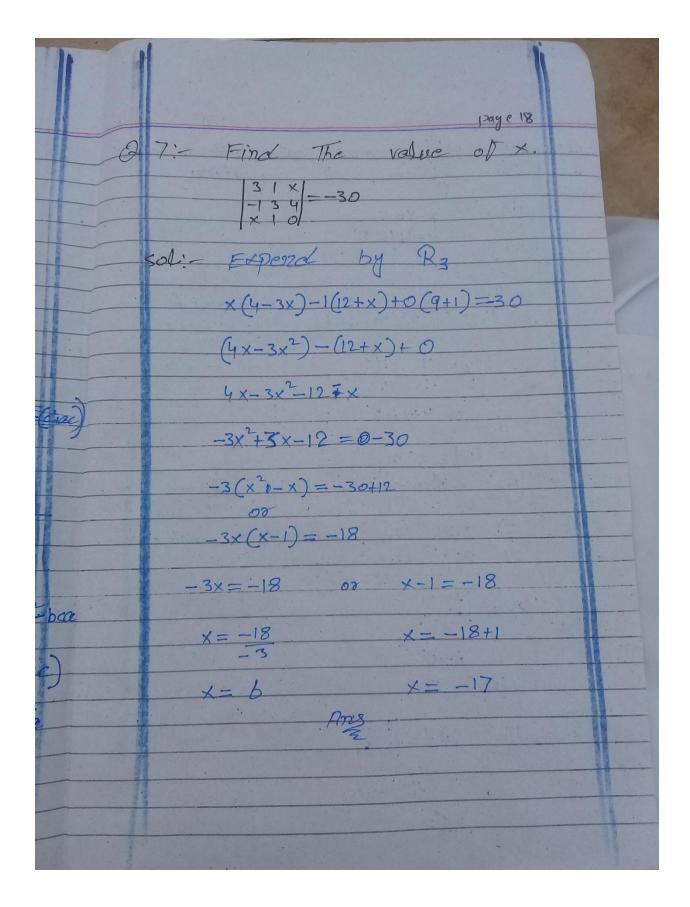






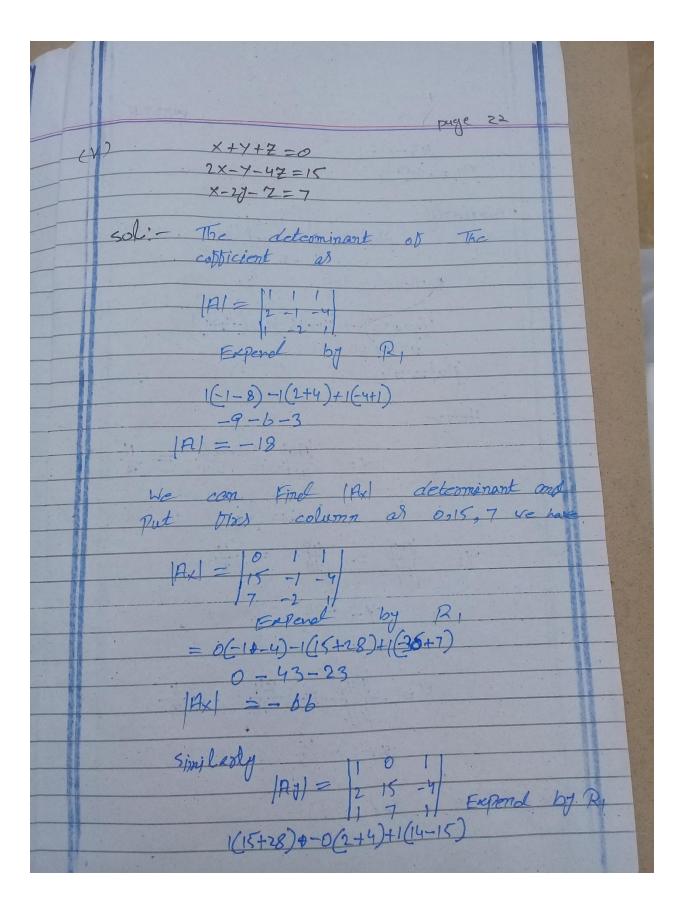
page 16 2105 S/2011 That | l a a | = (20+l)(l-a) | a a l | sol:- Il a af Taking 1-H-5 |a l a = | Expend by R. $\frac{1(1-a^2)-a(a1-a^2)+a(a^2-a1)}{1^3-a^21-a^21-a^21+a^2-a^21}$ 1-04-04-04 (20-1) (l-a)²
(20-1) (l-a)² SO L-H-S=R-H-S

page 17 Q+ob That Prov bec atb $= a^3 + b^3 + c^3 - 3abc$ BICI att cta a (c+a-b+c-)-b+6(bc+ba)-(bc+c)+c+b((c+b)-(c+a) a(c+a2-b+c2)-(b+c)(bc+ba) a(c+ac+ac+a²)-(ba+b+ca+cb))-b(bc+ba+c+ca). (ca+cb+ba+b))+((b2+bc+cb+c2)-(ac+a2+bc+ba)) (ac+ac+ac+a3-ba2-Ab-ca7cba)-bc-ba-bc-ba total + cb+ba+b+ bc+bc+cb+c3-ac2-ac-bc2+bac) - bc+ c3+ bc+ bc+ bc+ bc+ cb- ac- co- bc- co) $= a^3 + b^3 + c^3 - 30bc$ SO 1-H-5= R-H-5

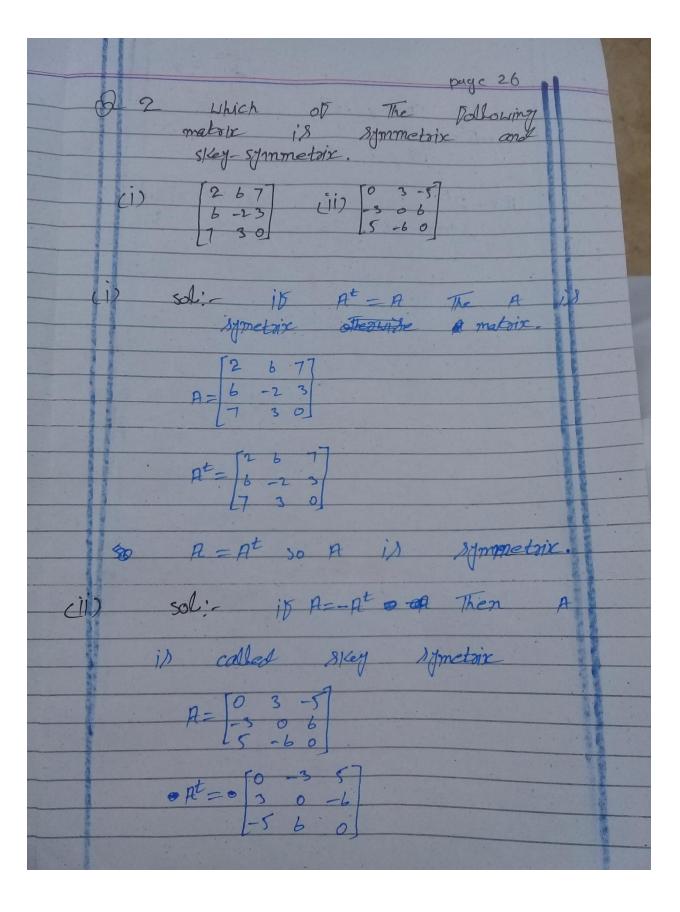


preje 20 Hence $\chi - |A \times 1|$ IRI Putting The values Y= 1AU = 3 IAI (iii) x-2y+Z=-1 3x+j-27=4 y-7=1Sol: Hence The determinant of 1(-1+2)-3(-2-1)+0(4-1) 1+9+0 |A| = 10 For IAXI replace The column of IAI with The corresponding constant -1,4,1 we have

proje 21	
Px = -1-2 4 -1 1 -1	LY.
Expend by C.	
-1(-1+2)-4(2-1)+1(4-1) -1(1)-4(1)+1(3)	
$-1-4+3$ $ A_{\times} =-2$	
- similarly Ay = 3 4 -2	
Forpered by C1;	
1(-4+2)-3(1-1)+0(2-4)	
Ay = -2	
$ A_2 = 3 4 $	
Expend by c, 1(1-4)-3(-1+2)+0(-1+2)	
A2 = -b	
Hence 191 -2 = -15	
X = R = 105	
Y= AY = 10 = 5	3
7= 142 = 10 = -	5

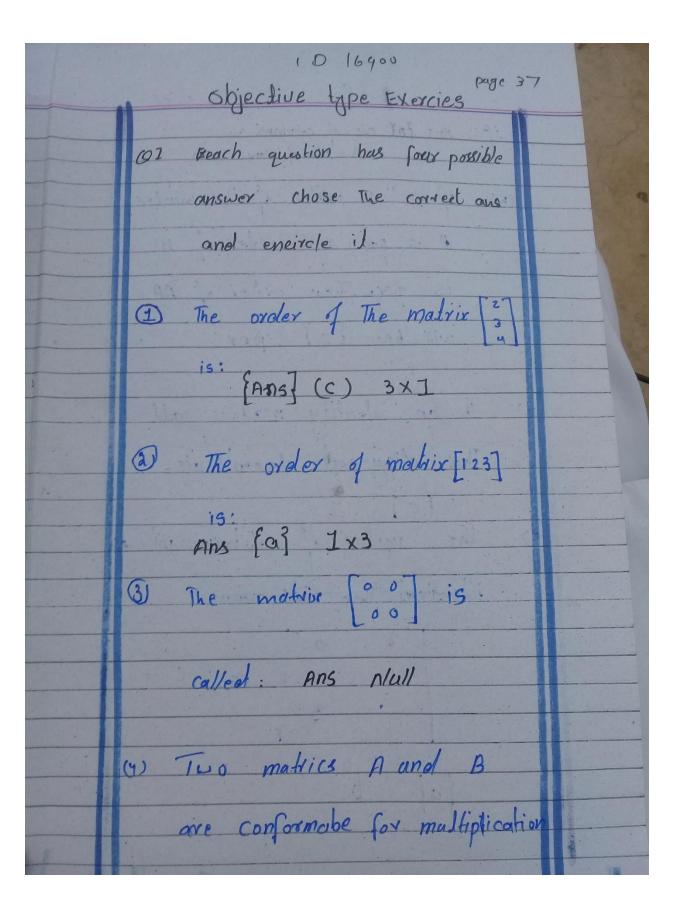


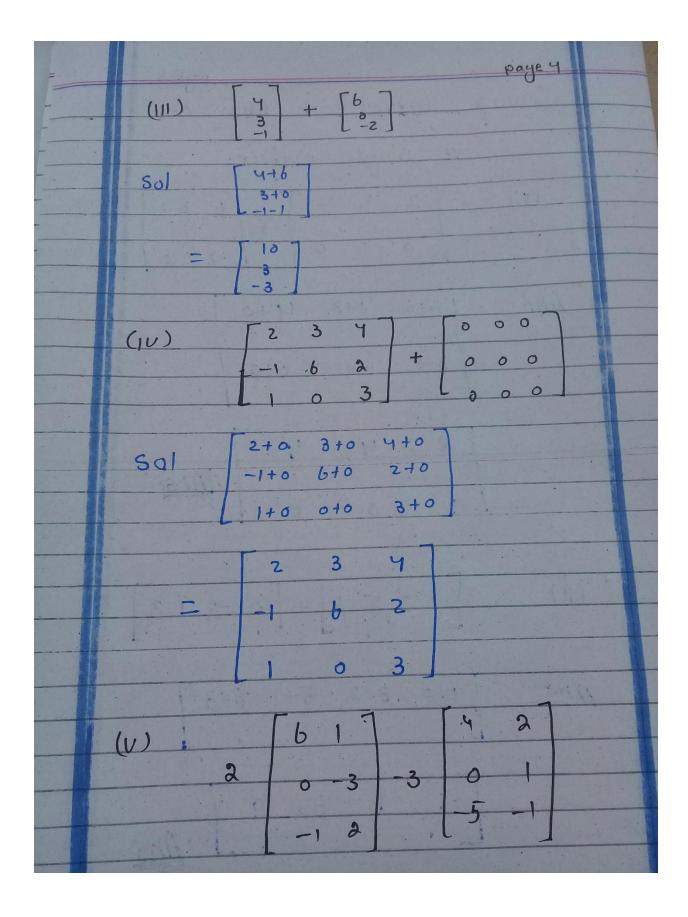
	page 23
	13-0-1 Py = 42
	Similarly Az = 1 0
	Expend by R1
	$\frac{1(-7+30)-1(14-15)+0(-4+1)}{23+1+0}$ $ A_{2} =24$
	Hence
	$X = \frac{ A_X }{ R } = \frac{-b6}{-18} = \frac{11}{3}$ $X = \frac{1}{3}$
	Y= -73
	$7 = \frac{ A_{\overline{4}} }{ A_{\overline{4}} } = \frac{24}{3} = -\frac{4}{3}$
	7=-73
The	e solution ret as:

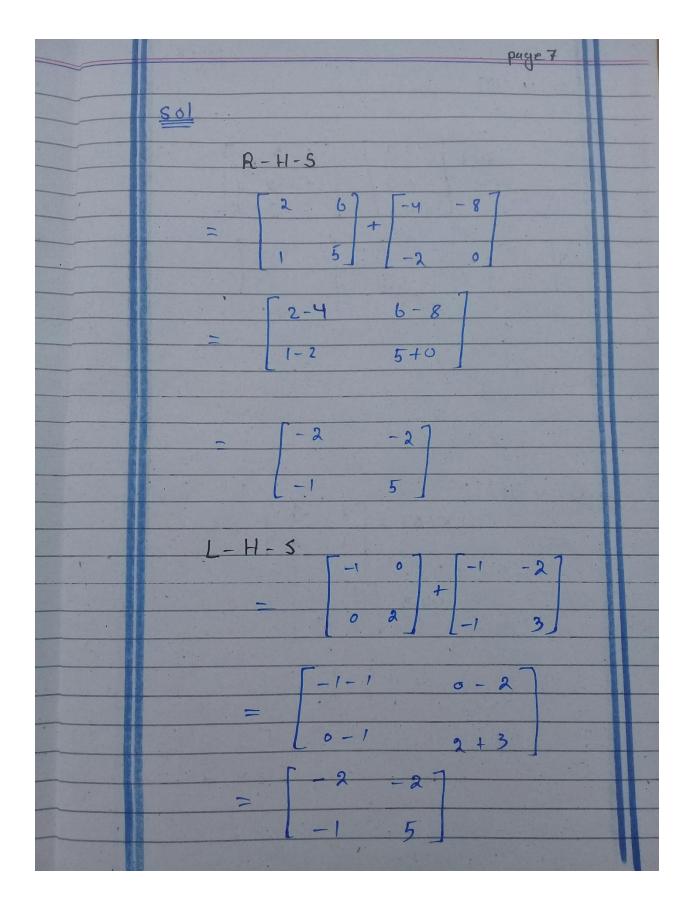


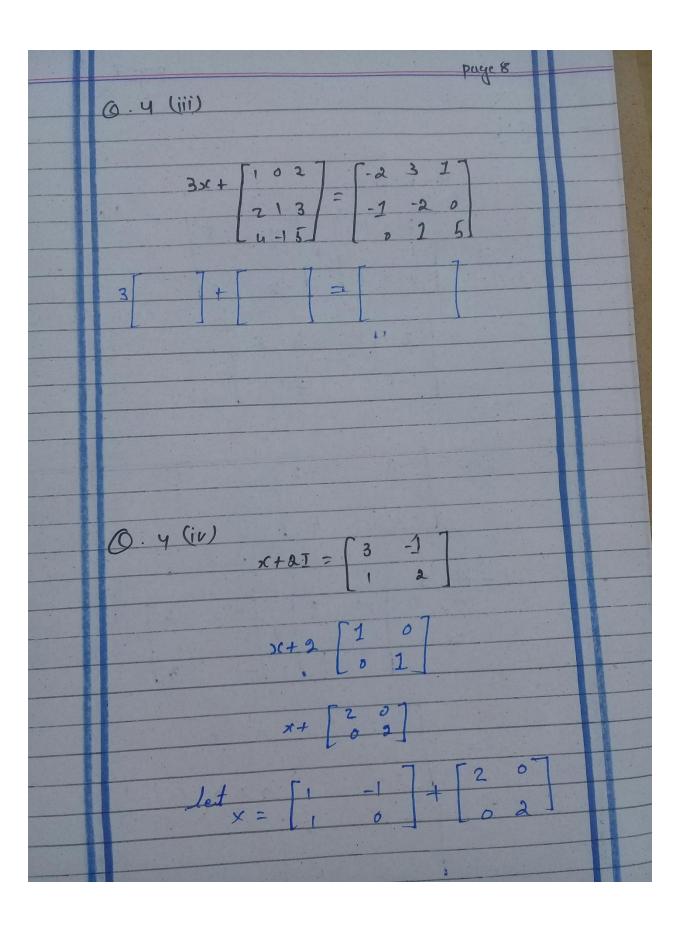
	pege 29	
2	31- Find K such that The	
	Tollowing matoires are singular.	
	(i) K b (ii) 1 2 -1 4 3 (ii) -3 4 K -4 2 b	
(i)	sol:- K b	
	3K-24=0	
	312 = 24 1298	
	$K = \frac{248}{3}$ $K = 8$	*
CH)	Sol: - 1 2 -1 -3 4 K	**
	-426	
	Expend by R1	
	1(24-2K)-2(-18+4K)-1(-b+16)	
	24-2K+3b-8K+b-1b=0 $-10K+50=0$	
	-10K= 50	
	$K = \frac{50}{10}$	
	K= 5 ANS	
	2	

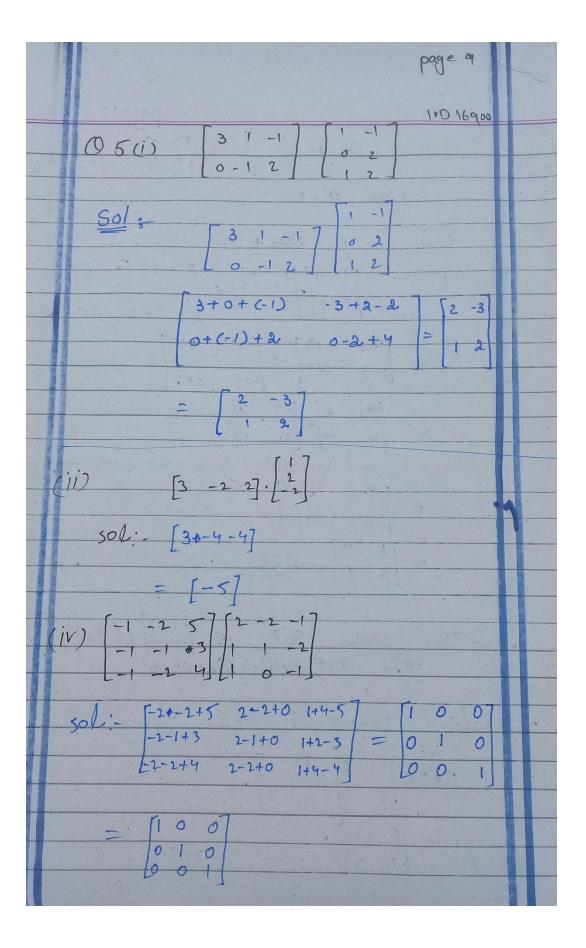
page 36 Where CA+A) is symmetric matrix and (A-A) is skew-symmetric metric. O. 4 Difine diagonal matrix. Ans A square matrix is called a diagonal matrix if nondiagnal entries are all Zero The main diagonal can be constants or Zero. A diagnol matrix must fit The following. di 0 0 ... 0 6 d22 0 --- 0 0 0 033 --- 6 000 ann











$$P \circ g \in \mathbb{N}$$

$$P \circ g \in \mathbb{N}$$

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

$$= \begin{bmatrix} 0 \times B + B - 1 & 0 + B \\ 0 - 5 & -2 + 7 \end{bmatrix}$$

$$P \circ g \in \mathbb{N}$$

$$A+B = \begin{bmatrix} -2 & 1 & 0 \\ -5 & 1 & 2 \\ 0 & 1 & 0 \end{bmatrix}$$

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

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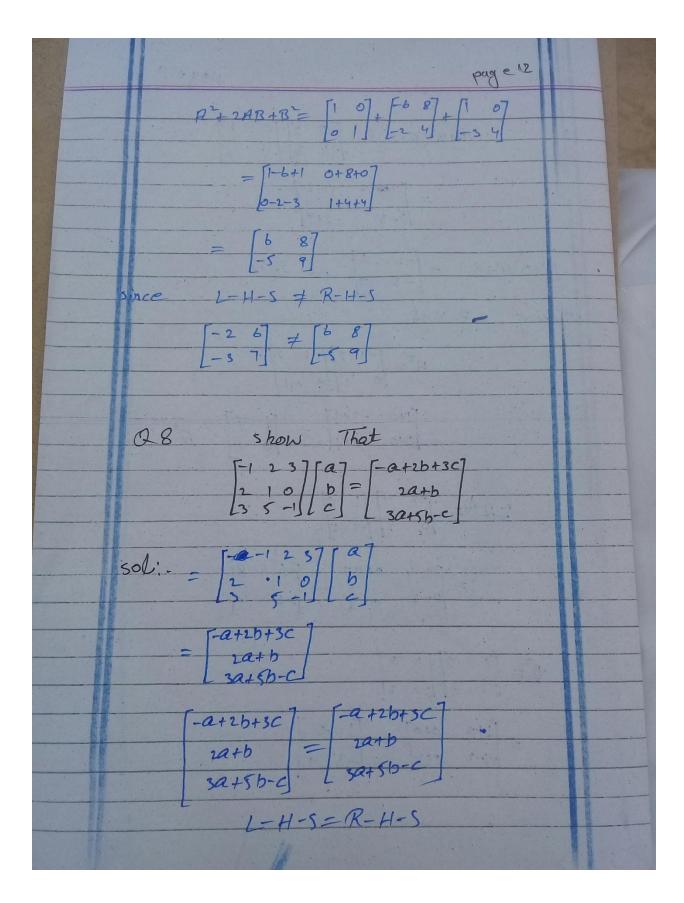
$$A^2 = \begin{bmatrix} -1 & 2 & -1 & 2 \\ 0 & 1 & 2 & -1 \end{bmatrix}$$

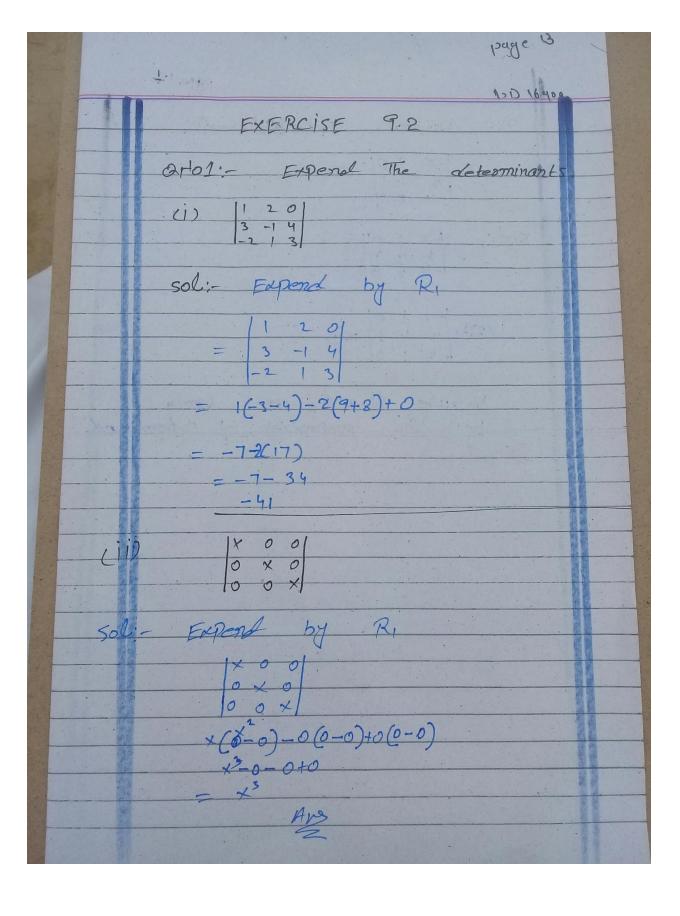
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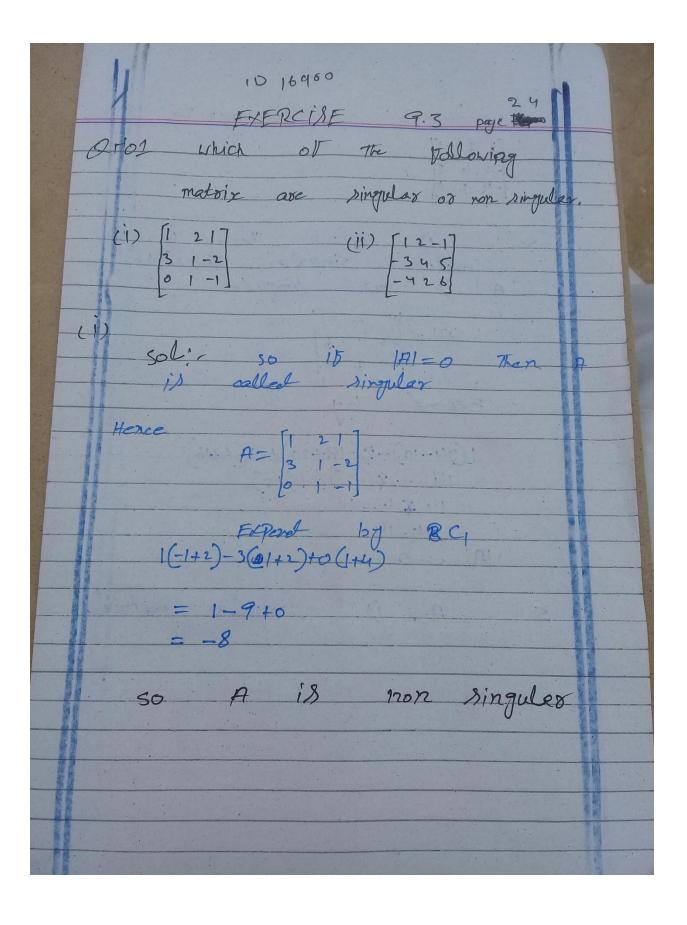




Expensors verily That Without 101 41 sol:because R, Ep R3 are same

Q3:- Show That | a1 a2 a3 | a1 a2 a3 | a1 a2 a3 | b1 b2 b3 | c1 c2 c3 | d1 d2 d3 Sol: - Taking L-H-S a, az az | | a, az az b1 b2 b3 + b1 b2 b3 CIX CIX CSX de de de | a1 a2 a3 | a1 a2 as | | b1 b2 b3 + b1 b2 b3 | | c1 c2 c3 | d1 d2 d3 | L-H-5 = R.H-5

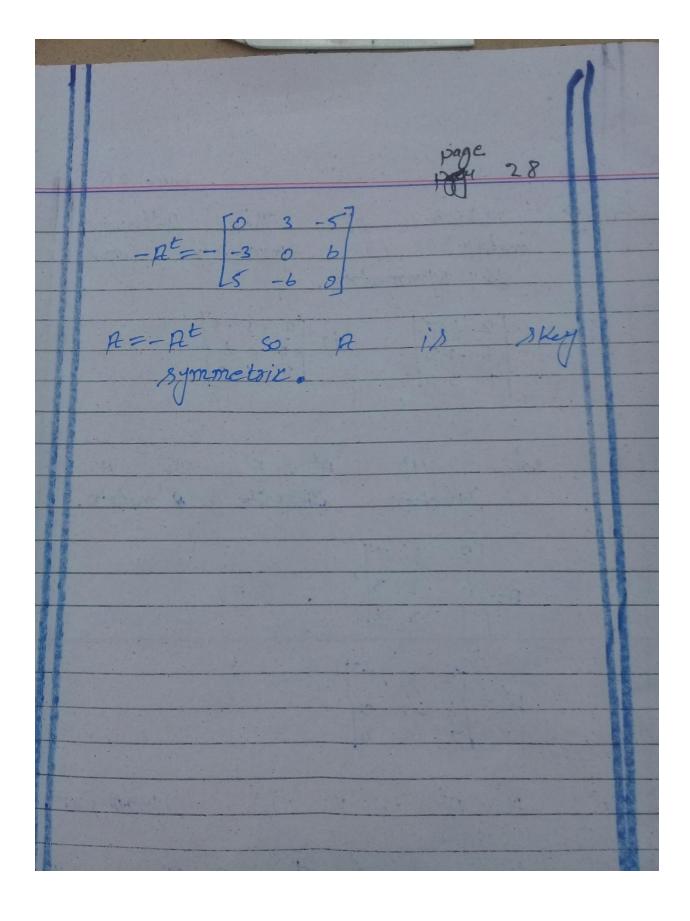
page 19 9708: - use comer mules to solve The Mstern of equation. (i) x-y=2 x+4y=5sol- Hence The determinant The coefficients is: = 4+1=5 For |Ax| replace The first edumn IFI with The corresponding constant 2,5, We have 8+5=13 |Ax1 = 13 Similarly | Ay = 1 5 5-2=3 |AD/= 3



pag e 25 cii -3 4 5 sol:- it iAI=0 Then A

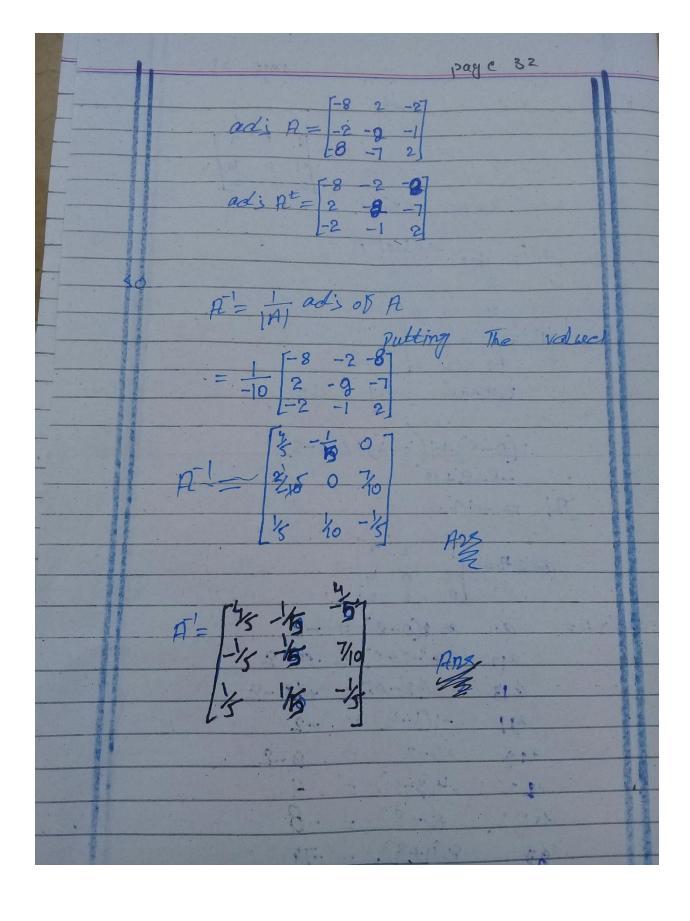
called singular otherwise

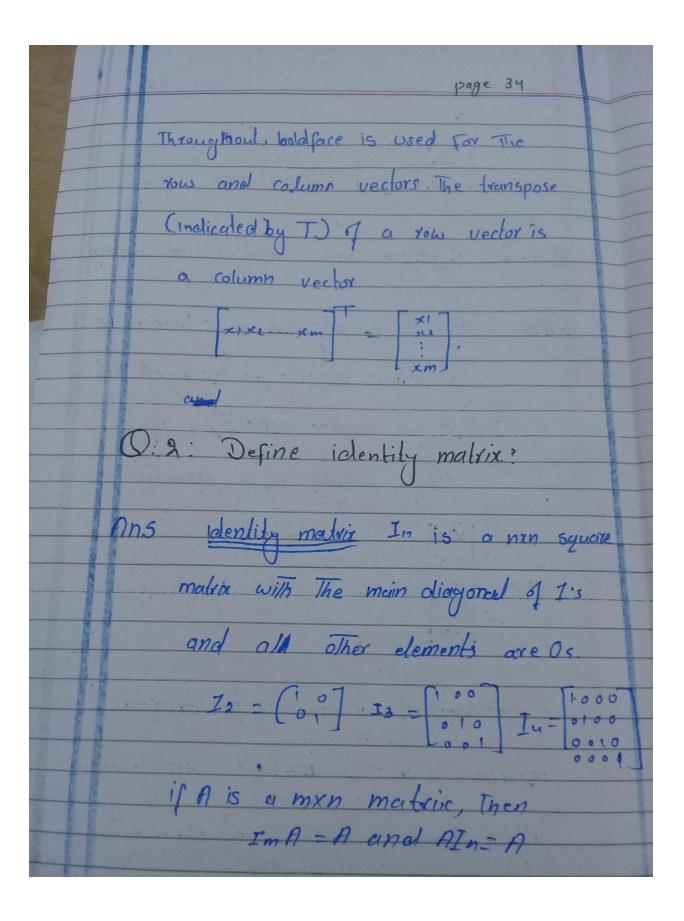
A is non singular 57 is singular matri



Find The investe it it exist of The pollowing matrices. (i) [1 3] (iii) [1 2 3 soli-(i) Let

129e 31 sol: Let (iii) We know That A = in adiot A 1(0-8)+1(4-6)+0(0-8) -8-2+0 ad = a11 aa (0-8) = -8 012 8(-2-0) - 2 013 3(-2-0) = +2 -2 011 -1(6-4) = -2 agg 2(0+2) = 9





is a nen madrix, Then AIn = In A = A Define symmetric M squre matrix A is called a symmetric matrix, if A = A A sque matrix A is called a skow - symmetric matrix, if A = A any square matrix cab be express as The sum of a symmetric and a skew - symmettic matrix.

if: Ans fag No of columns in A = NO of yours in B if The order of The morrises A is say and order of B is gor, Then order of AB will be. {c} psy Ih an identity maline all The diagonal elements are: [c] I The value of determinant on identical Then its value - 2 0

(8) if two rows of a determinant are identical the its value is: matrix, Then Cofactor of uis (a) -2 (10) if all The doments of a row or a solumn are Zero, Then volue of the determinant is: (c) Zero w value of m for which matrix [2 3] is singular.

(12) if [aij] and [bij] are of The sames order and anj - hij Then matrix will be do equal 13. Matrix [aij]man is a saw matrix if: (c) m-1 14. matrix [cis] man is a Mechanguler if: (d) m-n +0 if A = [aij] myn is a scalar matrix (15) if: (d) (a) andb) aij = 0 \ di = j motion A = [aij] min is an edentify matric if: bi = j a ij = 0 Which matric can be tectangue matric!

A = [aii] Then order KA is: (a) A+B=0 myn

19 (A-B) = A-2AB+B2, if and only 6 AB-BA=0 as if A and B ARF symmetric, Then