Que	Examine whether the following set of vectors is LI on CO. also find the mank of the matrix armated.
	also find the rank of the matrix arrowated.
(i)	2(2, 3, 6, -3, 4), (4, 2, 12, -3, 6); (4, 10, 12, -9, 10) 1 Jans - L.D, Kank Z
(2)	P(3,2,4) (1,0,2) (1,+,-1)3 -> Any L.I.; Rank 3
(3)	{ (1,2,3,1) (2,1,-1,1), (4,5,5,3), (5,4,1,3)} Am. L.D., Rank 2
(4)	§ (2,2,0,2); (4,1,4,1); (3,0,4,0)] Any L.D., Rank 2
	10 - 6 - 10 - 10 - 10 - 10 - 10 - 10 - 1
	12000
	The the man fend smarking your finance of
	The first the state of the stat
	가는 그 있는 것이 없는 그는 것이 없는 것이 없는 것이 되었다면 하는 그렇게 되었습니다. 동생 사회 사람들은 사람들은 그는 것이 없는 것이 없는 것이다.
	10 S 1 State of the state of th
	The state of the s
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	Oxadu Elimination method i>
n samularanan kan baranan ara	System of Lineau Equations: >1
	Let anx + anx + - + anx = b1
Lancard Conference	$Q_{3}x_{1}+Q_{3}x_{2}+\underline{\qquad}+Q_{3}nx_{n}=b_{2}$
person i li constitue di personali p	
	$a_{m_1} x_1 + a_{m_2} x_2 + a_{m_1} x_n = b_m$
	
ing. Digitarun dan sekata an kacamatan dan	$S = A \times = b$
-1	where A = an an b= by x=12
	where $A = \begin{bmatrix} a_{11} & a_{12} & a_{1n} \\ a_{21} & a_{22} & a_{2n} \end{bmatrix} = \begin{bmatrix} b_1 \\ b_2 \\ b_3 \\ x = \begin{bmatrix} x_1 \\ x_2 \end{bmatrix}$ $\begin{bmatrix} a_{m_1} & a_{m_2} & a_{m_1} \\ a_{m_2} & a_{m_3} \\ a_{m_4} & a_{m_5} \end{bmatrix} = \begin{bmatrix} b_1 \\ b_2 \\ b_3 \\ x = \begin{bmatrix} x_1 \\ x_2 \\ a_{m_5} \end{bmatrix}$
* *	Com com - amn mxn Com Con
	(1) is the System of m equations and nunknowns.
	System (1) is said to be consistent if it has atleast
	one solution and inconsistent, if it has no solution.
()	There are three Possibilities:
(1)	
(2 (3	
	Dystem (1) Mas Minnie na of savinara-
Rend	11 The non-hom. System of Equation Ax=b has a solution iff
	Rank (A) = Rank (A/b) where A/b is the augmented
1 Tage 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	matrix.
=	If Rank (A) = Rank (A/b) => (1) has no solution.
	If Rank (A) = Rank (Alb) = n (no. of unknowns) then
	(1) has unique solution.
<i>→</i>	4f Rank (A) = Rank (Alb) & 4 <n (1)="" has="" infinite<="" th="" then=""></n>
	no. of solutions.
	To the Contract of the Contrac
1	

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Gaus Elimina	hion_melhoo	1 for no	m- homof	eneous Aystem:
restruction and proventional province of the contract of the c	HEROMETERS WHEN THE PROPERTY AND THE PROPERTY OF THE PROPERTY	NOTE THE PROPERTY OF THE PROPE	and an amount of the state of t	Section of consequential and the second

$$\begin{bmatrix} 2 & 1 & -1 & 2 \\ 1 & -1 & 2 & 4 \end{bmatrix} = \begin{bmatrix} 2 \\ -2 \\ 2 \end{bmatrix}$$

Ax = b

Write the augmented matrix [A|b] and reduce it to seew echelon form by applying elementary row operations.

[A|b] = [2 1 -1 4]

$$[A|b] = \begin{bmatrix} 2 & 1 & -1 & 4 \\ 1 & -1 & 2 & -2 \\ -1 & 2 & -1 & 2 \end{bmatrix}$$

$$R_2 \leftarrow R_2 - R_1/2$$

$$R_3 \leftarrow R_3 + R_1/2$$

$$R_3 \leftarrow R_3 + S_1 R_2$$

Hence Range (A) = Range (A/b) = 3

=> System has a unique Solution.

and Solution is

$$\frac{8z = -8}{3} \Rightarrow z = -1$$

$$\frac{-3}{2}y + \frac{5}{2}z = -4 \Rightarrow y = 1$$

- Angelog William Street on the Street of the Street	Date: / /201
	2x+4-2=4 = x=1
	So (x=1, y=1, z=+ 13 the bolution.
(2)	2n + z = 3
	1x - y + 2 = 1
	4x-2y+3z=3
	2 0 1 7 3
	1 -1 1 40 = 8 1 8 9
4 11 11	[4 -2 3] [Z] [3]
9	The augmented matrix is 2 0 1 3
7.0	
	[4 -2 3 3]
	Rg ← Rg-R1/2-16
	Ry CZ-2Rp
3	
5	= 2 0 1 3
3	0 -1 1/2 -1/2
•	0 -2 1 -3
5	tis notices again an no Rolting - 2Ro
5	= 2 0 1 3
5	0 1-1 with 21 -1/2 - 1 - 1/2 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -
	LO 0 0 -2
>	=> Rank(A)=2 & Rank(A b) =3
>	3) System has no solution
) (02)	
(3)	x - y + z = 1
	$2x + y - z = 2$ \Rightarrow $2 - 1 - 1 - 1 - 2 = 2$
	5x - 2y + 2z = 5 $[5 -2 2][5]$
	0
	The augmented form of the matrix is

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	[A b] = [1 -1 1 1]	
	2.1. +11. 2	
	5 -2 2 5	
	$R_2 \leftarrow R_2 - 2R_1$	
	$R_3 \leftarrow R_3 - 5R_1$	
		-
	= 1 -1	
	0 3 -3 0	
	0 3 -3 0	1111 m
	$R_3 \leftarrow R_3 - 3R_2$	
	Les A Cigni-Ine 12 1 Chamber & some in love	4
	= 0 3 -3 0	
	1000000	
	=> Rank (A) = Rank (Alb) = 2 < 3	
	=> System has Infinite no of solutions.	
	3y - 3Z = 0	4
	⇒ y=z	
	$\chi - y + z = 1$	
	$\Rightarrow \chi = 1$	250
	So 2=1, y=z and z can be chosen aubitravile	1-
	50 X21, 9 = 2 days x 60, 100 or	
	Solve 4x-3y-9Z+6w=0	Light.
علا	30 ve = 9x - 3y - 12 + 3w = 0 $2x + 3y + 3z + 6w = 6$	
-	4x - 31y - 39z - 6w = -34	
_	Ans: - Infinite Sol	
	rms - mance so	
	Solve $\chi + 2y - 2z = 1$	10
<u></u>	2x - 3y + Z = 0	
	5x + y - 5z = 1	
	3x + 14y - 12z = 5	
	Any = 1 4=1 7=1 Unique Soln.	
	1/10/2	AND THE PERSON NAMED IN COLUMN 2 IN COLUMN

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Que	$\begin{bmatrix} 2 & -3 & 1 \\ \end{bmatrix} \begin{bmatrix} x \\ \end{bmatrix} \begin{bmatrix} -2 \\ \end{bmatrix}$
	1 -1 2 9 = 3
	$\begin{bmatrix} 2 & 1 & -3 \end{bmatrix} \begin{bmatrix} 2 \end{bmatrix} \begin{bmatrix} -2 \end{bmatrix}$
	Ans x=1, y=2, z=2
Du	[5 3 14] [X] - No[4]
	0 1 2 9 = 1
	1 1 2 2 0
	$\lfloor 2 \rfloor \lfloor 2 \rfloor \lfloor 2 \rfloor \lfloor 2 \rfloor$
	$\sqrt{2}$ $x = -1$, $y = -\frac{1}{2}$, $z = 3/4$
Que !	This is to way to go to the way as -
Line and the second	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$
	$\begin{bmatrix} 1 & -1 & 1 & -1 \end{bmatrix} \begin{bmatrix} 2 & 1 & 2 \\ \omega & 1 & 0 \end{bmatrix}$
	million of white gertal (a)
	Ansı 2-d, 1, d, 1); d aubitmany
Que	$\begin{bmatrix} -1 & 1 & 1 \end{bmatrix} \begin{bmatrix} x \end{bmatrix} \begin{bmatrix} 1 \end{bmatrix}$
	$\begin{vmatrix} 1 & -1 & 1 & & y & = & 0 \\ 1 & 1 & -1 & 1 & & z & & 0 \end{vmatrix}$
	$\begin{bmatrix} 1 & 1 & -1 \end{bmatrix} \begin{bmatrix} \omega \end{bmatrix} \begin{bmatrix} 0 \end{bmatrix}$
	- - - - - - - - - -
TOTAL IN	