Note:

- 1) All Questions are compulsory.
- 2) Figures to the right indicate marks.
- 3) Answer to every questions must be written on a new page. Q. 2. A) Draw the graph of the linear in
- 4) Use non-functional calculator
- 5) Graph paper is not necessary.
- A) If the technology matrix of certain sectors in economics is Q.1

$$A = \begin{bmatrix} 0.3 & 0.5 \\ 0.2 & 0.4 \end{bmatrix}$$
 and final

demand is D =
$$\begin{bmatrix} 150 \\ 12 \end{bmatrix}$$
 find its total outputs X_1 and X_2 [5]

- B) Find the inverse if it exists of the matrix $\begin{bmatrix} 2 & 5 \\ 1 & 3 \end{bmatrix}$ [5]
- C) Solve the equations by cramer's Rule.

O. 3. A) Find the value of n if
$$4 + 7 + 108 = 38^{-1} + 7 + 2y = 7$$
, $6x - 5y = 38^{-1} + 7 + 108 = 38^{-1} + 7 + 108 = 38^{-1} + 108 = 38^{$

Q. 1. A) From the following information find total output of Both production Houses. Also find the corr. coeff matrix.

.16	Consumers			Final Demand	
Rs. 2,000 paid at the er	nity o	C1	lo C2 sv ino	C) Idnd the pres	
Production P1	nane	50 mu	11% 04npq	1014 year, a	
Houses P2	SO	70	90	40	

Q. S. All for a G. P. ta = 36 and ts = 972 find ta

B) Solve the following equations using the reduction method

year. Had it been invested at a rate 2% higher the
$$\chi^2_2 = \chi^2_3$$
 sent rate it would have given $R_2 = 22$ more find the sum

C) Solve the equations by cramer's Rule

C) Four boys and five girls are made to stand
$$\ln_7 = \frac{1}{2} + \frac{2}{x} + \frac{$$

$$2y + z = 9$$

Q. 2. A) Draw the graph of the linear inequations.

$$3\chi - 2y \le 0$$

B) IF A =
$$\begin{bmatrix} 1 & -2 & 3 \\ 2 & -4 & 1 \\ 3 & -5 & 2 \end{bmatrix}$$
 find $3A^2 - 2A + 5I$ where I is the Unit matrix $(\xi - \chi)$ [5]

[5]

[5]

EMPORENT DISC						AND RESIDENCE OF THE PERSON NAMED IN
	C) Solve the eqn	1 16	DASMJ '		601120110	[5]
8: 60	MARK	χ + 2	1	-3	: 2 Hrs.	
		1	χ – 3	-2	0 = Wote: ▶	000000000000000000000000000000000000000
		-3	-2 sory.	luqmod	 All Questions are 	
*			te marks.	nt indica	2) Figures to the rigi	- 2
Q. 2.	A) Draw the graph	of the line	ear inequat	ion.	Answer to every q Use non-function	[5]
	$5\chi + 4y > 0$				5) Graph paper is no	
	B) A = 1 1 1 3 -2	-2 1 1 0	ofcerain so	inatria 2 0.5 ₁	A) If the technology $A = \begin{bmatrix} 3 & 1 & 1 \\ 4 & 6 & 4 \\ 2 & 3 & 2 \end{bmatrix}$	0.1
	Show that A	AB ≠ BA				
	outs X and X	total outp	find its	150	demand is D B) Find the inverse	
[5]	c) Show that	1 d	a ca(c	+a)	El Find the inverse	
	3	1 a	b ab (a	(+b)	oo to the out of the fee	[5]
0.3	A) Find the value of				C) Solve the equation	is equal to
[6] 2.0.	A) Find the value of 175		yor 3801	g Xo		[5]
Houses.	at of Both production	total outpu	nation find	ng inform	A) From the followin	.1.0
	the sum and the		4 - C A - C - C - C - C - C - C - C - C -		r and Rs. 7,200 in 4	years find
br	Final Demai	umers	Const			
	C) Find the present for 4 year, at 11				00 paid at the end of	f each year [5]
	04 year, at 11	00	OT OR		Houses P2	[0]
Q. 3.	A) If for a G. P. t ₃				**************************************	[5]
[5]					interest at a certain	rate for 4
	,				than the present ra	
	have given Rs. 7	'2 more fin	nd the sum			[5]
[5]	C) Four boys and fi				a line for a dance co	mpetition.
		rent arrai	ngements c	an be d	one so that no two	
	together.				2y + z = 0	[5]
[8] Q.4.	A) Define margina	demand	d and elas	sticity, a	also write the pro	perties of
	elasticity.				$3\chi - 2y \le 0$	[5]
	B) Differenciate the	e following	g w.r.t. x		C - 1 % - A 071 /07	[5]
	2vtx) I is the) + (x = 1)	find 3 <u>(</u> 4	1	B) IF A = 42 - 2 B) IF A = 42 - 2	1
[5]	$y = \frac{1}{(\chi - 3)}$) (2χ+	Unit (d	5 2	E = E	
						DTO

P.T.O.

C) Evaluate the integrals
$$\int \frac{(\chi + 3) (\chi - 7)}{\chi} d\chi$$
 [5]

Q. 4. A) The demand for a commodity when its price χ is given by

$$y = \frac{(2\chi + 5)}{(3\chi - 4)}$$
 find the elasticity of demand when the price is 5 units.[5]

- B) Find extreme values of the function $f(\chi) = 2\chi^3 12\chi^2 + 41\chi + 20$ Also state the extreme value of $f(\chi)$ at the corr. points. [5]
- C) Evaluate the integrals $\int \frac{\chi^2 + 2\chi + \chi^{-1}}{\sqrt{\chi}} d\chi$ [5]

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