Topic: Date: Page No :
134: ASAY MITTAL: 9891087390
CHAPTER: RELATION FUNCTION
CLAS NOT 1
Rugians
(1) Kellahan From Set A to Set B
$R = \{(q,b): aRb; aEA, bEB\}$
Pulation from set A to set A 11
R= 4 (91b): 9Rb; 9EA, bEAY
Kelahan in Set A XI
1. Type: Of Pelah
Comment of markets.
The party (G. W) CR (b. a) ER
7 (410) CN, (410) CN
(2) Transitue Relation
4 (0,6) ER & (b,c) FR then (9,c) FR
(3) Reflexing Relation
for each a.E.A. (9,0)ER
(1) If all three then it is called on
Equivalence Relation
Commendation of the contract o
Gurvaina Class
QN1 Relation on A={1,2,3,4,5,94
R= 1(a,b): a-b as divisible by 2 (ar) eveny
8now that R is an Epyivalence Relation
8 now that R is an Epyivalence Relation Also And epurvalence class [3]
5010
CLASSTIAE!
[CLASSIIME]

Topic:
(1) Symmetre Righm
Let $(q,b) \in \mathbb{R}$ $\Rightarrow q-b = a \text{ divisby by } a$ $\Rightarrow a-b=a\lambda (\lambda \in 2)$ $\Rightarrow b-a=-2\lambda \text{ (whith is div by } a)$ $\Rightarrow (6,q) \in \mathbb{R}$
(2) Thensity Relation Let (a,b) ER & (b,c) ER
$\Rightarrow q-b=2\lambda \qquad 2 \qquad (b-c)=2k \qquad ; \qquad (\lambda 5ke2)$ $\Rightarrow q-c=(a-b)+(b-c)$ $\Rightarrow q-c=2\lambda +2k$ $\Rightarrow q-c=2(\lambda+k)$
= 9-(& div by 2 = (9,C) ER :- Reg transim selaha.
Reflexe ellahan For each a E A = 9-9=0 which is divista by 2 = (9,9)ER
Since R es symmetr, lyluru & tronsity .: R et an efuvalence ellaton.
(') Efywalleny class (3) = { 1, 3, 5, 7, 9}
au mated to try 91 cm element [a] (CLASSTIME)

	Topic:
	Mulahone Kinchon CLAK No. 1 (3)
On.2 -	dy of
· .	
	g all lines lelated to the line J=2x+4.
(1)	Symmetic Relation
	ut (1,4) ER
	$\Rightarrow L_1^{\rho}L_1$
	A 1116
	$\Rightarrow (L,L) \in \mathbb{R}$
	- R & Symmphic Pulghy
(2)	Teansity ellator
	let (4,4) ER & (4,43) ER
	=> 6,116, 2 62/163 Protog
	-P 4, 11 63
	= (L, L3) ER
	: R es bonsin ulghan
	$(1^*(an)$
(3)	Reflexing
	for each L, EL
	(L, L,) ER Since each len is
	parally to itself
	- R is sergeern Judghan
	i. Since all thrue: Rison equivalence Relation.
[.]	ligured set is the set of all the lines having
	8/1/2
(6	Legyment of the set of all the line having form J-24+C
	having form J-28+C (CLASSTIME)

•	Topic: Date: Page No.: Page No.: Wy
Ou3	Relation in A = 11213, 4, 154
	R= { (21,4): 21-4 as mystph of 44. Show that
	Ra on equivalence relation
	i. Also And equivalence class [27
5-1	
70.	(') Symmetre Mahan
	· lu (4,4) ER
	-> 1x-y = y) (1FZ)
	=> y-x1 = 71 (which -a multiple y y y
	$=(y, x) \in \mathbb{R}$
	: R et Symn- Relany
(21	τ_{\cdot}
	Transitus Relation
	$\frac{lu-(x,y) \in R}{ x-y =Y \land} = \frac{2(y,z) \in R}{ y-z =Y R \cdot \cdot (\lambda, K \in z)}$
	= (1-5)=1/1 C (1,K+2) => 1-7= £Y/1 E y-2= £YK
	Nav 7-7= (7-4) + (y-2)
	N-Z= TYX TYK.
	$\Rightarrow Y-Z = \pm Y(X+K)$
	=> 21-21- 4 1+k whilh a multiply
	· (712) ER
	: Ra tonsity Relate.
(31	0.11
	Reflexi Mahan For each $\chi \in A$
	for each XEA
	$\frac{1}{(1/2)} = 0$ $\frac{(1/2)}{(1/2)} = 0$
	i R va a Rylen ulghon
	: Ret an efyvalence relaha.
(·)	egywaling class [2] = 12, 6, 10, 14 4 An
	CLASSTIME

Rulahon & Funchon Clan Na 1	
Ory Relation & Function class No. 1 (
$R = \{ (q_1 b) : q \le b^3 \}$	
show Ria not symmetre, not transity,	
not uflery.	
C(A)	
$S(1)$ $R = \{(q_1b): q \leq b^3\}$	
(1,54mm/h.c) (1,2) ER	
$81na \mid \leq 9^3$	
bw (2,1) &R	
Sina 2 ± 13	
·- Rund symmthe	
Teansing (MAN) HAMANAMAN	
(16,4) ER 2 (4,2) ER	
bus $(16,2) \oplus R$ Since $16 \neq 2^3$	
Since 16 \pm 2 ³	
Ranot transim	
$\left(\begin{array}{cccccccccccccccccccccccccccccccccccc$	
leflern eilahm ER (Real Roumh)	
de (Mai Manny)	
but (\frac{1}{2}, \frac{1}{2}) \notin Relan.	
81ng 1 + (1)3	
:- R -and stylen-edg:	
CLASSTIME'	

Ons he has the elabor in the set \(\lambda \rightarrow \) green by \(R = \lambda \left(\lambda \right) \right) \right(\lambda \right) \right) \left(\lambda \right) \right) \\ \lambda \right) \\ \text{check whether R is symmy frequency or transition?} \\ \text{(1) lefthere for each a \(\text{CA} \) (\text{Gin set}) \\ \text{(910) \(\text{FR} \) \text{R is uflew Mah.} \\ \text{(1) Symmb Relay.} \\ \text{(1) Symmb Relay.} \\ \text{(1) Symmet.} \\ \text{R is not symmet.} \\ \text{(3) Teansih Maken} \\ \text{R = \(\lambda \lambda \right) \left(\lambda \right) \left(\lambda \right) \right) \left(\lambda \right) \right) \\ \text{R is host for May.} \text{Mah.} \\ \text{R is host for Mah.} \\		Topic: Date: Page No.: Page No.:
(1) leftere for fransity? (1) leftere for each a EA (give set) (9,0) ER (1) Resulting Wash. (1) Symmet Relain. (1) Symmet Relain. (1) ER (1,1) ER	On 5	lu R be tru ellahan en tru set 11, 23,44
(3) [1] leftere for each a & A (give set) (910) & R (910) & R (1) Symmth Relation (1) Symmth Relation (1) FR but (2,1) & R - R on not symmet. (3) Teansite alaka $R = A (1,1)(2) (3) (4) (1/2) (1/2), (3/2), 4$		
for each a & A (91 cm set) (9,0) & R (9,0) & R (1) Symmh Relgin. (1) Symmh Relgin. (1) FR but (2,1) & R - R as not symme. (3) Transih elaka R = A (1,1) (2,2) (3,3) (4,14) (1,2) (1,3), (3,2)		
(9,01) ER R 18 suflan Mah. (1) Symmh Rulgin. (1,1) ER but (2,1) ER - R 20 not symmel. (3) Teansih Maka R=4 (1,1)(2,2) (3,3) (4,14) (1,2) (1,2), (3,2),4	- A	
(9,01) ER R 18 suflan Mah. (1) Symmh Rulgin. (1,1) ER but (2,1) ER - R 20 not symmel. (3) Teansih Maka R=4 (1,1)(2,2) (3,3) (4,14) (1,2) (1,2), (3,2),4	201	l'helling.
R ex explain Mah. (1) Symmt Relain. (1,2) ER but (2,1) ER - R or not symmet. (3) Transih elakor $R = A (1,1)(2,2)(3,3)(4,14)(1,2)(1,3),(3,2),4$		
(2) Symmb Relgin. (1,2) $\in R$ but (2,1) $\notin R$ - R a not symmet. (3) Teansih elgka $R = \frac{1}{2} (1,1)(2,2)(3,13)(4,14)(1,2)(1,3),(3,2),4$		
$(1,2) \in \mathbb{R}$ $\text{but } (2,1) \notin \mathbb{R}$ $\text{: } \mathbb{R} \text{ on not symmet.}$ $(3) \text{Teansih what }$ $\mathbb{R} = \left\{ (1,1)(2,2)(3,3)(4,14)(1,2)(1,2),(3,2),4 \right\}$	(2)	
but $(2,1) \notin R$ - R on not symmet. (3) Teansih elaka $R = \frac{1}{1}(1,1)(2,1)(3,13)(4,14)(1,2)(1,13),(3,2),4$		
$\frac{1}{(31)} \frac{R}{\text{ Teansih ellaka}} \frac{1}{(1,1)(2,2)(3,3)(4,14)(1,2)(1,3),(3,2),4}$	•	
(3) Teansih elaka $R = \frac{1}{11} (11)(212)(313)(414)(112)(112)(312), (312), (312)}$		i Rand symmet.
	[31	
		$R = \lambda (1,1)(2,2)(3,13)(4,14)(1,2)(1,3),(3,2),4$
		K 13 promy m many m
	,	