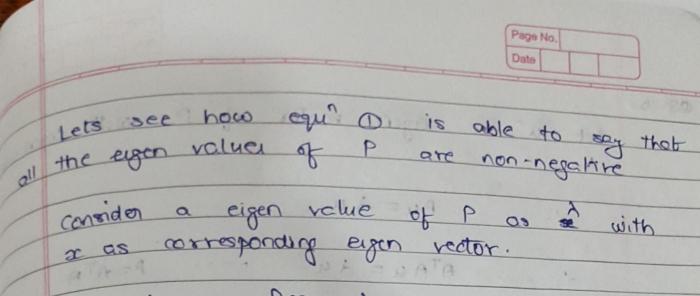
eigen values.



consider a eigen value of P as a with as corresponding eigen rector.

Px = Ax

 $x^T P x = A x^T x \cdots premultiply by of (NA) A (NA) A$

but XTPX 20 --- From equ' O

A xT x 20.1 A con the second to

A 1 21 20

1 ≥ 0 as 2 nd term is always

As b' was any arbitany eyen value, above is true for all eyen values of P.

symmetric

If a matrix X sansfies y xy zo

then it even rel

for any real rector of then it eigen reluct

are non-negative & is thus possitive semi-

definite.

i. From qu' D' @ k @ eigen value of

P. A. A. One oppositive PAG are non-negative

	Date	
Q3- b.		
3537	Let u be eigen ventor of P with as	en volue
At.	Pu=du, mo o notions	
	or as correspond seems vertex	
	- ATAU = du PEATA	
	x6 = x9	
	· AAT (Aa) - · · · premultiply	by A
10 mg	Gently March - x x y = x 9 m	
	9 (Au) = 1 (Au)	
	10 ings most 03 x9Tx tod	
	So we get Au as eigen vector of a	with
	Similarly, let v' be eigen rector of q	with
potelo	egen value pu	
ush Svil		
0 =	Qv= µv	
Syca	AATVO MY	
	AATVO MY 2000 1 20	
	ATA (ATV) = M(ATV) premi	ulbal. 1
0 3	TO a mothix X sometices if xis	october 6
wia / a	X (10) 0 11	П.
10	$P(ATV) = \mu(ATV)$	
1	so, here also we get AT as asso	a Ir A
1-	so, here also, we get ATV as eigen P with eyen value m	really g
	uer k verm	
	TER X VERM	

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