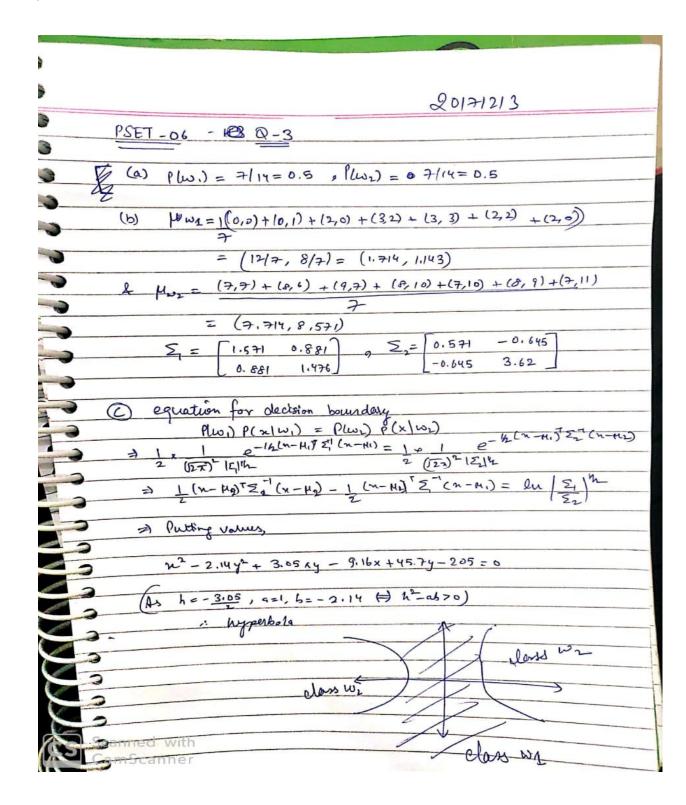
HW 6 - SMAI ROLL_NUMBER - 20171213

Q3.



•	
	C
E Let the penalities for each misclusification are different for the 2 classes, w, & w, & lot penality(w) = k,	
for the 2 classes, w, & w, & lot penality(w) -k.	
$penality(w_i)$	
Now, $p(\omega, \kappa) = \frac{p(\alpha \omega_i) p(\omega_i)}{p(\omega_i) p(\omega_i)} \times \frac{p(\omega_i \kappa_i)}{p(\omega_i)}$	
P(n) (uri)	
P(W2/X) = P(m/W2) P(W2) x /1	
$\frac{P(w_2 x) = P(x w_2) P(w_2) \times (1)}{P(x)}$	E
Now, Plw, (x) = Plw2/n) and Plw1) = Plw2) = 1/2	2
	-
$\Rightarrow P(m w_1) \times k = P(m w_2)$	C
=> $(2e - \mu_2)^T = \frac{1}{2} (2e - \mu_2) - (2e - \mu_1)^T = \frac{1}{2} (2e - \mu_1) = \ln \frac{121}{12}$	
\—	
to k, when k increases, the decision boundary will change according to k, when k increases, the decision boundary woves toward the selsion of less penalty, and vicaversa.	p
to k, when k increases, the decision boundary moves toward	7
Sganged with less neoghts and vica venue	6