10/10/40

816210 Computational Neuroscience Midsemutir examination

2

(4) A <0, E >0, E = 44>0

as seo, an fixed point would be a raddle point

W

 ΔTO , C TO, C^2 - $\Delta \Delta TO$ The fixed point is an unitable node

saddle nodu

unitalile ^(b)

unitable izinal

@

statele squial

undateli

1 miral

line of attractors

3)

 $\dot{x} = -x + x^3$

 $XNC: \dot{\chi} = 0 \Rightarrow \chi^3 - \chi = 0$

x = 0/x = -1/x = 1

y = anyetting

 $YNC: z=-y \Rightarrow y=-x$

and

fixed points

+ star/degenerate nodes

= (0,0),(1,-1),(-1,1)

$$J = \begin{pmatrix} -1 + 3\chi^2 & 0 \\ -1 & -1 \end{pmatrix}$$

$$\begin{pmatrix} -1 & 0 \\ -1 & -1 \end{pmatrix}\begin{pmatrix} z \\ y \end{pmatrix} = -\begin{pmatrix} z \\ y \end{pmatrix}$$

and
$$-x = -x$$

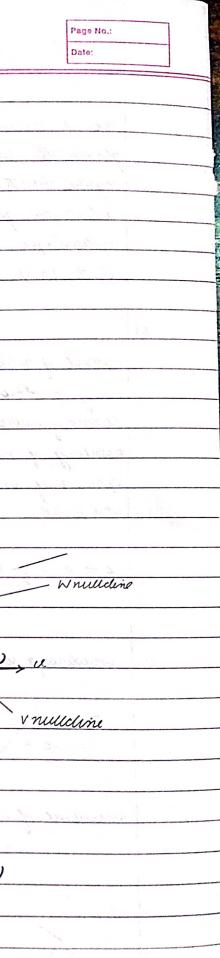
and
$$+ x = 0$$

$$J = \begin{pmatrix} -1+3x^2 & 0 \end{pmatrix} = \begin{pmatrix} 2 & 0 \end{pmatrix} \qquad \text{E=A} \quad \text{and } \Delta x D$$

$$\begin{pmatrix} -1 & -1 \end{pmatrix} \begin{pmatrix} -1 & -1 \end{pmatrix} \qquad \Delta = 22 \qquad \Rightarrow \text{ [sadde node]}$$

Page No.:	e e de l'ale re de la company
Date:	3

6)					
1		the the think was as			
	cita of summation in a neuron	asion hillock			
1	glulamate neurotransmitter	NMDAriaptor			
10	myelin sheath	increased conduction velocity			
1	actuation gate	opens with increased membrane potentie			
	Metaleotropic receptors	second musenger signalling			
	(A-4); (B-1); (C-5); (D-a); (E-3)				
	10				
5)	is a sur suce cutality con is				
	17.14				
	Aminal of action potential on pruy				
	Entry of cat 2 cons into the precynaptic timinal				
	Release of newtotransmitters				
	Biriding of neurotiansmitters with receptors on pougnaptic terminal				
	Opening of son channels on the poet synaptic terminal				
	EPSP JIPSP				
	Listerhalister " Salite construction where had carte				
	a o a o f o e o b o d	F1			
4)	considering sealed end				
4)	considering sealed end	I topic = .			
4)	4, RØ1				
4)	Considering stated and Li, Rai, Rai, 0 to D Li, Rai, C Li, Rai, C				
4)	Rayo 40 D				
4)	Raistance of B (realed end) =	Roscoth (LI) = RI			
4)	Raio Lo D	Roscoth (LI) = RI			
4)	Rwintance of B (realed end) = C (realed end) = $\frac{L_1, Rw_1}{Rw_2}$	$Roscoth(L1) = R1$ $Ros_2 \cdot Coth(L2) = R2$			
4)	Raistance of B (realed end) = C (realed end) = R_{1}	Roscoth (LI) = RI			
4)	Raintance of B (sealed end) = $C = \frac{R}{R}$ $R = \frac{R}{R}$ $R = \frac{R}{R}$ $R = \frac{R}{R}$ $R = \frac{R}{R}$	$Roscoth(LI) = RI$ Ros_2 $Loth(La) = R_2$			
4)	Raintance of B (realed end) = C (realed end) = C (realed end) = C (realed end) = Respectively.	$Roscoth(L1) = R1$ $Ros_2 \cdot Coth(L2) = R2$			
4)	Rayo to D Rayo to D L_{2},Roo_{2} Ruistance of B (realed end) = C (realed end) = R R_{1} R_{2}	$Roscoth(LI) = RI$ Ros_2 $Loth(La) = R_2$			
4)	Raistance of B (realed end) = C (realed end) = R R R R R R R R	$Roscoth(LI) = RI$ Ros_2 $Loth(La) = R_2$			



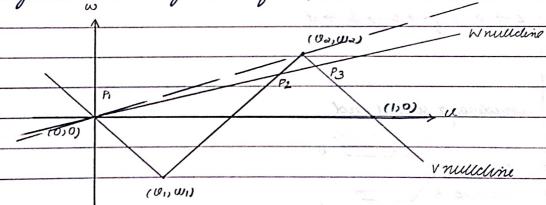
Hence, the network becomes

Hence, Rnet = RL of the main calife

$$R_{L} = \frac{R\omega_{1} R\omega_{2} \operatorname{coth}(U) \operatorname{coth}(L_{2})}{R\omega_{1} \operatorname{coth}(U) + R\omega_{2} \operatorname{coth}(L_{2})}$$

$$\begin{array}{ccc}
\omega & = & f(\omega) - \omega + I_{\alpha} \\
\omega & = & L\omega - \omega
\end{array}$$





$$f(u) = \int_{-\omega}^{\omega} -\omega + \omega_{1}u d \qquad u < u_{1}$$

$$-\omega + \int_{-\omega}^{\omega} -\omega_{1} du d \qquad u < u_{1}$$

$$(u) = \int_{-\omega}^{\omega} -\omega_{1}u d d \qquad u < u_{1}$$

$$(u) = \int_{-\omega}^{\omega} -\omega_{1}u d d \qquad u < u_{1}$$

$$(u) = \int_{-\omega}^{\omega} -\omega_{1}u d d \qquad u < u_{1}$$

$$(u) = \int_{-\omega}^{\omega} -\omega_{1}u d d \qquad u < u_{1}$$

$$(u) = \int_{-\omega}^{\omega} -\omega_{1}u d d \qquad u < u_{1}$$

$$(u) = \int_{-\omega}^{\omega} -\omega_{1}u d d \qquad u < u_{1}$$

$$(u) = \int_{-\omega}^{\omega} -\omega_{1}u d d \qquad u < u_{1}$$

$$(u) = \int_{-\omega}^{\omega} -\omega_{1}u d d \qquad u < u_{1}$$

$$(u) = \int_{-\omega}^{\omega} -\omega_{1}u d d \qquad u < u_{1}$$

$$(u) = \int_{-\omega}^{\omega} -\omega_{1}u d d \qquad u < u_{1}$$

$$(u) = \int_{-\omega}^{\omega} -\omega_{1}u d d \qquad u < u_{1}$$

$$(u) = \int_{-\omega}^{\omega} -\omega_{1}u d d \qquad u < u_{1}$$

$$(u) = \int_{-\omega}^{\omega} -\omega_{1}u d d \qquad u < u_{1}$$

$$(u) = \int_{-\omega}^{\omega} -\omega_{1}u d d \qquad u < u_{1}$$

$$(u) = \int_{-\omega}^{\omega} -\omega_{1}u d d \qquad u < u_{1}$$

$$(u) = \int_{-\omega}^{\omega} -\omega_{1}u d d \qquad u < u_{1}$$

$$(u) = \int_{-\omega}^{\omega} -\omega_{1}u d d \qquad u < u_{1}$$

$$(u) = \int_{-\omega}^{\omega} -\omega_{1}u d d \qquad u < u_{1}$$

$$(u) = \int_{-\omega}^{\omega} -\omega_{1}u d d \qquad u < u_{1}$$

$$(u) = \int_{-\omega}^{\omega} -\omega_{1}u d d \qquad u < u_{1}$$

$$(u) = \int_{-\omega}^{\omega} -\omega_{1}u d d \qquad u < u_{1}$$

$$(u) = \int_{-\omega}^{\omega} -\omega_{1}u d d \qquad u < u_{1}$$

$$(u) = \int_{-\omega}^{\omega} -\omega_{1}u d d \qquad u < u_{1}$$

$$(u) = \int_{-\omega}^{\omega} -\omega_{1}u d d \qquad u < u_{1}$$

Page No.:	
Date:	egalismos substitutor y m

022 pull

for the "w nullcline" to intersect twice with the "v nullcline" the star (wa/va)

if h = wa/uz, were intersects VNC inactly at (Va, wa)

and [LE (0, W2/U2)]

stability of points:

 $\frac{P_1 = (0,0)}{\text{and} \quad J = \left(\frac{1}{2}(0) - 1\right)}$

 $= \left(\frac{\omega_i/\alpha_i - 1}{\Delta_i} \right)$

and $T = \frac{\omega_{I-I}}{\omega_{I}}$

 $\Delta = -\frac{w_i}{v_i} + \frac{u}{v_i}$

W140; 1120

A 70

+ TKD

stable

Pa o

 $J = ((\omega_{\alpha} - \omega_{1}) - 1)$ $((\omega_{\alpha} - \omega_{1})$ $(\omega_{\alpha} - \omega_{1})$

and t = w2-w1 -1

radolle > $\triangle < 0$

 $\Delta = b - (wa - wi)$ $(U_2 - U_1)$

→ & < (Wa-WI)

(Ua-UI)
</p>

A STATE OF THE PARTY OF THE PAR		Data
P3	Survey bollings of a second second second	Martin Committee and Committee
J = (Wa -1)	record and the control of the contro	the and the things the property of the state
$J = \begin{pmatrix} \omega_4 & -1 \\ 0 & 1 \end{pmatrix}$ $L = -1$		green green and all again more confirmed the electrical and indicate and the confirmed the confirmed between the confirmed confirmed and confirmed the confirmed the confirmed confirmed and confirmed the confirmed confirmed confirmed the confirmed con
	W. Silver St. W. Sees.	Day July & Albana a A &
T = W2 -1		
Und	and it shall the set the first the county discount of the first of the first of the set of the county discount of the second	-wa + b
and wa no a	1 110 11	370 [122 20 10] 6 11 maps
Uat		
and tho	> stable	
A VOLUMENT THE PROPERTY OF THE	7 Maile	Diedlick Asympton
	Congression and controlled the controlled the control of the control of the controlled the contr	
	through the mail on a trestable design for being the activities are small in earliest.	In tall or page
Commence of the Commence of th		
and the state of t	and the file	The state of the s
	produces look, wheeleth a resistance definally emissively him, who a not successful wheeleth and all the second	
ere all last to a control because a control for a limited to the last of the last above breakfiller.	garanas glavas artikalas (1900-1906) este elektronik ere elektronik ere elektronik ere elektronik ere elektroni	
reduced from the control of the cont		
	reaction through the west to be received a service of the second	
	egyptiggsbrightevolidifysiddis Piller will off ophytusk gynd Arw ordinlaki fysiolog cislasyssows centris ell	and the second s
and the state of t		
		100 mm 43 mm
B & A	e Golkifor	The second secon
A series of the	And the state of t	199 File 1 to 23
	рону шууы башууны дорийн к. Пүүн б. б. особин (1904 ой). Айн сүйн түүсү үчн Асунин Кинси баш, Тойун шинууч	
Company of the second s	ndiscolled frameworklik Ernstel Argebrus Fladelskirk für 18 500 A. studel in 1971 voll visit 1800 an.	FIT Program (PE) A Plant in the Control of Engine (and Control of En
and the same of th	in the section will be sectionally formally and section and good for the section and because and section and	

Page No.