No.

Date :

M. Hasyim Abdillah P.
110119cw95

4. $Z_L = (80 + j20)\ \Omega$ Soal : LPF
$Z_s = (20 + j40)\ \Omega$
$f = 100\ MHz$
$Z_0 = 50\ \Omega$

a. $Z_{LN} = \frac{Z_L}{Z_0} = \frac{80 + j20}{50} = 1{,}6 + j0{,}4$

$Z_{SN} = \frac{Z_s}{Z_0} = \frac{20 + j40}{50} = 0{,}4 + j\,0{,}8$

$Z_{SN}^* = 0{,}4 - j0{,}8$

b.

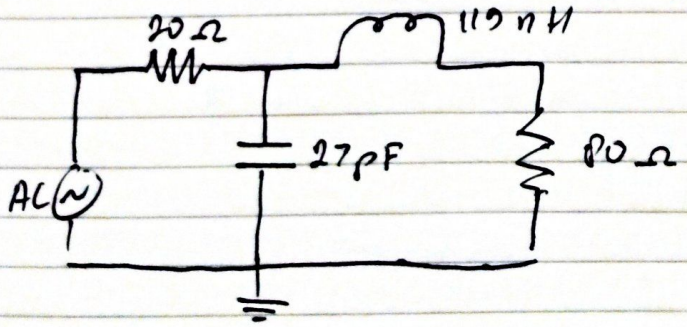
c. $B_{LN} = -1{,}0 - (-0{,}15) = -0{,}85$ mho
$X_{LN} = -0{,}8 - 0{,}7 = -1{,}5$ ohm

d. $B_C = \frac{B_{LN}}{Z_0} = \frac{0{,}85}{50} = 2\pi f C$

$C = \frac{0{,}85}{2 \cdot 3{,}14 \cdot 100 \times 10^6 \cdot 50} = 27\ pF$

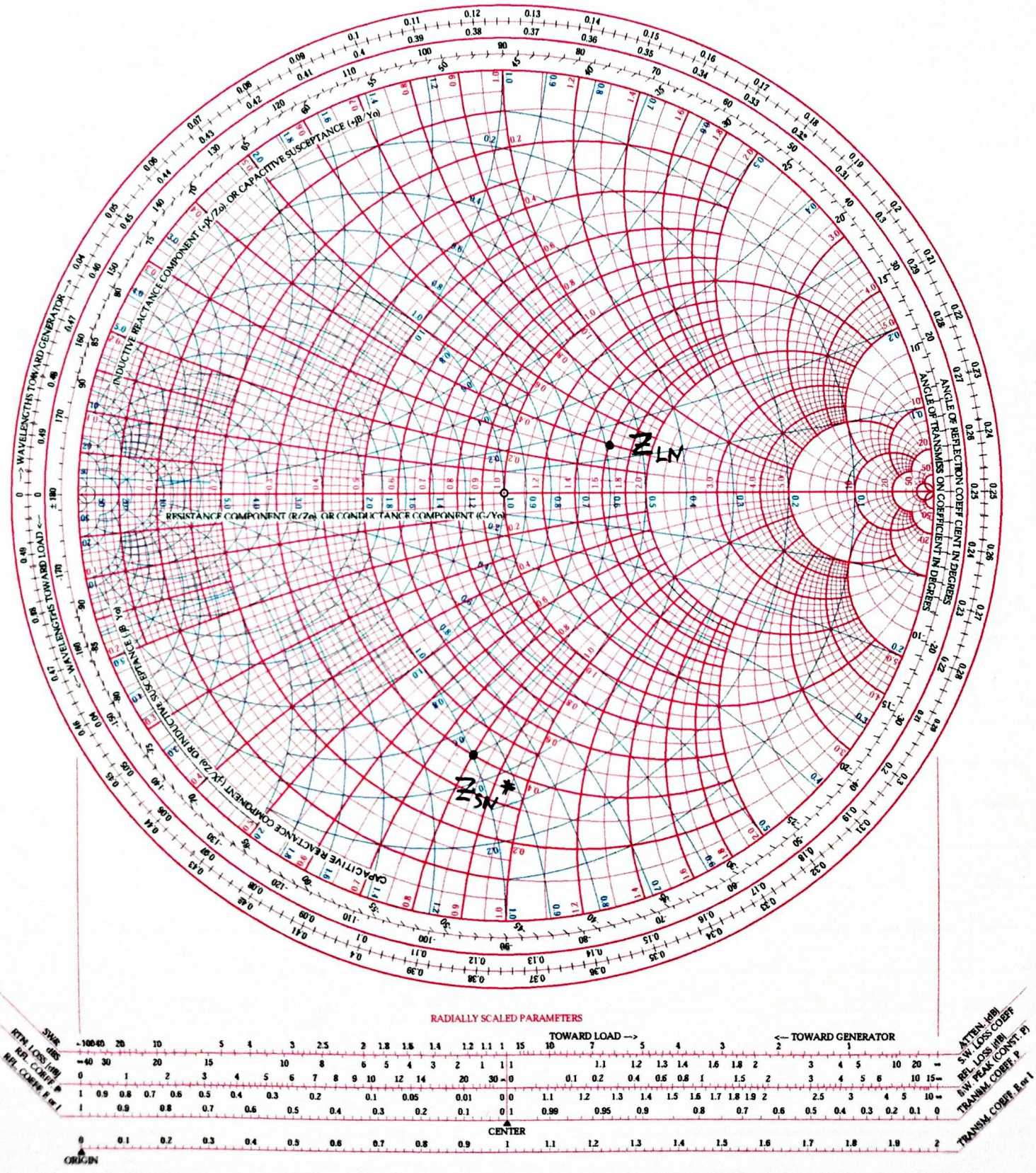
$X_L = X_{LN} \cdot Z_0 = 1{,}5 \cdot 50 = 2\pi f L$

$L = \frac{1{,}5 \cdot 50}{2 \cdot 3{,}14 \cdot 100 \times 10^6} = 119\ nH$



NAME	TITLE	DWG. NO.
		DATE
SMITH CHART FORM ZY-01-N	COLOR BY J. COLVIN, UNIVERSITY OF FLORIDA, 1997	

NORMALIZED IMPEDANCE AND ADMITTANCE COORDINATES



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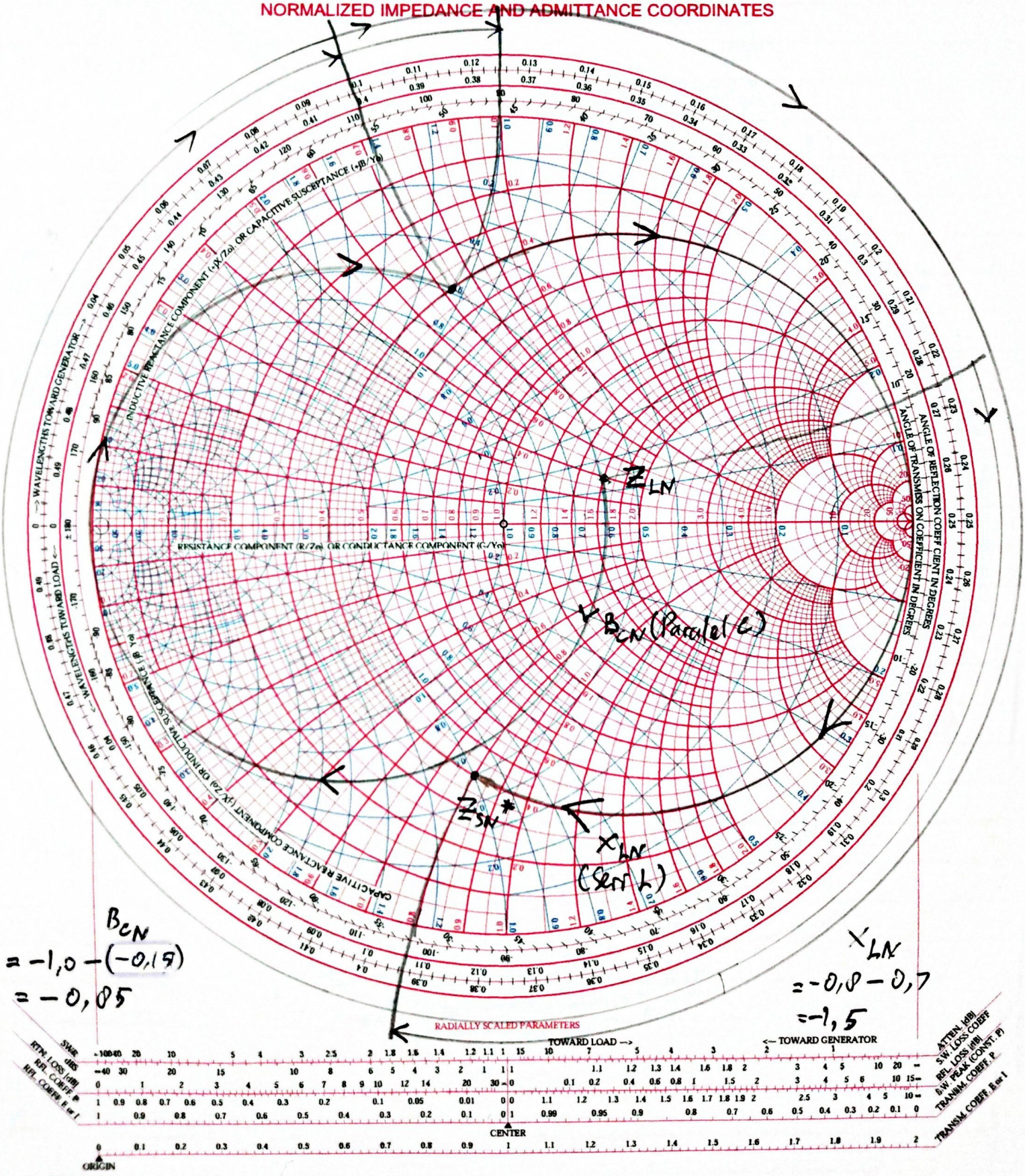

B_{CN}
$= -1,0 - (-0,19)$
$= -0,85$

X_{LN}
$= -0,8 - 0,7$
$= -1,5$