From the desk of

F&W (Lab 2)

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DATE

Qu 1 For $\vec{V_1} = 5e^{jw_1 t}$ and $\vec{V_2} = 10e^{-jw_2 t}$.

$w_1 = 1\,GHz$, $w_2 = 2\,GHz$.

find sinusoidal components corresponding to.

$\vec{V} = \vec{V_1} + \vec{V_2}$

$\vec{V} = \vec{V_1} - \vec{V_2}$

$\vec{V} = \vec{V_1} * \vec{V_2}$

$\vec{V_*} = \vec{V_1} / \vec{V_2}$. for $t = (0$ to 5 sec$)$.

then see the behaviour of

$\vec{F_1} = e^{-dt}\,\vec{V}$ and $\vec{F_2} = e^{+dt}\,\vec{V}$ for $t = (0$ to 5 sec$)$

here $\vec{V} = (\vec{V_1} + \vec{V_2})$ and $d = 0.5$ nepers/m.

and find value at $t = 1$ sec of F_1 and F_2.

Qu 2. If $R = 0.1\ \Omega/m$, $G = 0.01\ \mho/m$, $L = 0.01\ \mu H/m$ and $C = 100\ pF/m$.

find Z_0 and γ for $f = 2\,GHz$ to $4\,GHz$.

Qu 3. A voltage wave at $1\,GHz$ is travelling on tx line in $+x$ direction with voltage $V(t) = 8.66\ V$ with initial phase of $30°$ at $t = 0$ and $x = 0$. If $R = 0.5\ \Omega/m$, $G = 0.1\ \mho/m$, $L = 0.2\ \mu H/m$, $C = 100\ pF/m$. find γ, α, β plot for freq $0.5\,GHz$ to $2.5\,GHz$ & its value at $1\,GHz$.

Also find instatenous voltage at $x = 1m$, $t = 100\,n\,sec$. by plotting for $x = 0.5m$ to $2.5m$.

Find peak voltage at $x = 1m$. also.