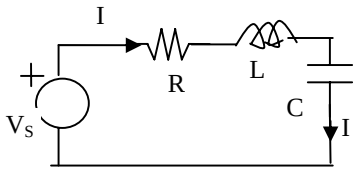
Ozdeger ve ozvektorleri bularak dif denklemleri cozun. Ozdeger bulmak icin MATLAB komutu: [ozvektor, ozdeger]=eig(A)

Sekildeki devreye ait durum denklemleri asagida verilmistir.



$$\begin{bmatrix} \frac{dV_C}{dt} \\ \\ \frac{dI}{dt} \end{bmatrix} = \begin{bmatrix} 0 & \frac{1}{C} \\ \\ \frac{-1}{L} & \frac{-R}{L} \end{bmatrix} \begin{bmatrix} V_C \\ \\ I \end{bmatrix} + \begin{bmatrix} 0 \\ \\ \frac{1}{L} \end{bmatrix} V_S$$

1) Bu denklemleri turetiniz.

2) R,L,C degerleri tablo 2 de verilmistir.

2a)Vs=0, Vc(0)=10, V_L=0 degerleri icin devreyi cozun Vc(t) ve I_L(t) yi cizin.

2b)Vs=10u(t), Vc(0)=10, V_L=0 degerleri icin devreyi cozun Vc(t) ve I_L(t) yi cizin.

2c)Vs=10sin(4t), Vc(0)=10, V_L=0 degerleri icin devreyi cozun Vc(t) ve I_L(t) yi cizin.

3) R,L,C degerleri tablo 3 de verilmistir.
3a)Vs=0, Vc(0)=10, V_L=0 degerleri icin devreyi cozun Vc(t) ve I_L(t) yi cizin.

3b)Vs=10u(t), Vc(0)=10, V_L=0 degerleri icin devreyi cozun Vc(t) ve I_L(t) yi cizin.

3c)Vs=10sin(4t), Vc(0)=10, V_L=0 degerleri icin devreyi cozun Vc(t) ve I_L(t) yi cizin.

4)2. soruyu Laplas donusumu kullanarak cozun.
5)3. soruyu Laplas donusumu kullanarak cozun.

og no, Tablo2R,L,C, , Tablo3 R,L,C,
125117004,1,0.6,0.9, ,1,0.2,0.9,
125117009,1,1.8,0.9, ,1,0.15,0.9,
135117005,0.9,0.9,0.9, ,0.9,0.16,0.9,
135117008,0.9,1.1,0.6, ,0.9,0.1,0.6,
135117010,1,1.7,1, ,1,0.22,1,
135117015,0.8,1,1, ,0.8,0.14,1,
145117001,1,1.1,0.6, ,1,0.13,0.6,
145117002,0.9,1.4,1, ,0.9,0.1,1,
145117003,0.8,0.5,1, ,0.8,0.11,1,
145117004,0.8,0.2,0.9, ,0.8,0.12,0.9,
145117005,1,0.2,0.5, ,1,0.1,0.5,-2.5
145117006,0.9,0.8,0.8, ,0.9,0.11,0.8,
145117007,0.9,0.7,0.9, ,0.9,0.16,0.9,
145117008,1,0.9,0.6, ,1,0.1,0.6,
145117009,0.9,0.6,0.9, ,0.9,0.14,0.9,
145117010,1,3,1, ,1,0.2,1,
og no,R,L,C, ,R,L,C,
999999891,1,0.9,0.7, ,1,0.12,0.7,
999999892,1,1.1,0.5, ,1,0.11,0.5,
999999893,1,0.7,0.6 ,1,0.1,0.6,
999999894,1,1.6,0.9 ,1,0.18,0.9,
999999895,0.9,3,1 ,0.9,0.12,1,