_ İŞARET İŞLEME ÖDEV 1 -

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Cansu

1) $(D^2+3D+2)y(t) = Dx(t)$

$(D^2+3D+2)\, y_0(t) = 0 \qquad y_0(0)=0 \;,\; y_0(0)=-5$

$(\lambda^2+3\lambda+2) = 0$

$(\lambda+2)(\lambda+1) = 0 \qquad \lambda_1 = -2$ ve $\lambda_2 = -1$ olur

$y_0(t) = c_1 e^{-t} + c_2 e^{-2t}$

$y_0(t) = -c_1 e^{-t} + c_2 e^{-2t}$

$0 = c_1 + c_2$

$-5 = -c_1 - 2c_2$

$c_1 = -5 \qquad c_2 = 5$

$y_0(t) = -5e^{-t} + 5e^{-2t}$