

RESPOSTA DE ALGUNS EXERCÍCIOS DA LISTA 2 (TE 238-2013-2 - EXERCÍCIOS 0. PDF)

2) (EXERCÍCIO RESOLVIDO NO LIVRO DO BOYCE, PÁG 97)

$$y(t) = -\frac{1}{2} e^{3t/2} + \frac{5}{2} e^{t/2}$$

3) a) $y(t) = C_1 e^t + C_2 e^{-3t}$

b) $y(t) = C_1 + C_2 e^{-5t}$

c) $y(t) = C_1 e^{3t/2} + C_2 e^{-3t/2}$

4) $y''(t) + y'(t) - 6y(t) = 0$

5) $\alpha = -2$; 6) $\beta = -1$

7) $y \rightarrow 0$ p/ $\alpha < 0$; y TORNA-SE ILIMITADO p/ $\alpha > 1$.

10) (EXERCÍCIO RESOLVIDO NO BOYCE, PÁG 97)

$$y_p(t) = \frac{10}{13} e^t \cos 2t + \frac{2}{13} e^t \sin 2t$$

12) $y(t) = C_1 e^{-2t} + C_2 t e^{-2t} - e^{-2t} \ln t$

13) $y(t) = C_1 + C_2 e^t + C_3 e^{-t} + \cos t$

14) $y(t) = C_1 + C_2 t + C_3 t^2 + C_4 e^{-t} + \frac{1}{20} \sin 2t + \frac{1}{40} \cos 2t$

15) $y(t) = C_1 e^t + C_2 e^{-t} + C_3 e^{2t} + \frac{1}{30} e^{4t}$

16) a) $x_1'(t) = x_2(t)$

$x_2'(t) = -2x_1(t) - 0,5x_2(t)$

b) $x_1(t) = x_2(t)$

$x_2'(t) = -2x_2(t) - 0,5x_2(t) + 3\sin t$

c) $x_3'(t) = x_2(t)$ $x_3(t) = x_4(t)$

$x_2'(t) = x_3(t)$ $x_4'(t) = x_3(t)$