Corso di laurea in Scienze Biologiche
Laurea Triennale
Matematica, Corso A (lettere A-L), Prof. E. Mascolo

ESERCITAZIONE 7

(1) $y' - 3y = 0, \qquad (y(x) = Ce^{3x})$

(2) $y' = \frac{xy}{x^2-1}, \qquad (y(x) = C|x^2 - 1|^{\frac{1}{2}})$

(3) $y' = \frac{y}{\sqrt{x+5}}, \qquad (y(x) = Ce^{2\sqrt{x+5}})$

(4) $y' = -y + e^{-x}, \qquad (y(x) = e^{-x}(x + C))$

(5) $y' + \frac{y}{x} = \frac{1}{x}, \qquad (y(x) = 1 + \frac{C}{x})$

(6) $y' = \frac{y}{x} + x, \qquad (y(x) = x^2 + Cx)$

(7) $y' + y = 2xe^{-x}, \qquad (y(x) = e^{-x}(x^2 + C))$

(8) $6y'' - 5y' + y = 0, \qquad (y(x) = C_1e^{\frac{x}{3}} + C_2e^{\frac{x}{2}})$

(9) $y'' - 2y' + y = 0, \qquad (y(x) = C_1e^x + C_2xe^x)$

(10) $y'' + 9y = 0, \qquad (y(x) = C_1 \cos 3x + C_2 \sin 3x)$

(11) $y'' - 3y' + 2y = 4, \qquad (y(x) = C_1e^x + C_2e^{2x} + 2)$

(12) $y'' + 4y = 1, \qquad (y(x) = C_1 \cos 2x + C_2 \sin 2x + \frac{1}{4})$

(13) $y'' - 6y' + 8y = e^x, \qquad (y(x) = C_1e^{2x} + C_2e^{4x} + \frac{1}{3}e^x)$

(14) $y'' + y = x + 1, \qquad (y(x) = C_1 \cos x + C_2 \sin x + x + 1)$

(15) $y'' - y = \cos x, \qquad (y(x) = C_1 + C_2e^x - \frac{1}{2} \cos x - \frac{1}{2} \sin x)$