حلول اسئلة الامتحان الاول شعبة B مجموعة A

Q.1 Find Order, degree, UnKnown function and independent variable

1.2 $X'''' + 3yX' - 5x = 0$

O(3), D(1), U.F.(X), I.V.(y).

2.17 $y^{(4)} - t^6 y^{(2)} - 4.2y^5 = 3\cos t$

O(4), D(1), U.F.(y), I.V.(t).

Q.2 The solution of $y' - 5y = 0$:-

(b) $y = e^{5x}$, $y' = 5e^{5x}$

$5e^{5x} - 5(e^{5x}) = 0$

(c) $y = 2e^{5x}$, $y' = 10e^{5x}$

$10e^{5x} - 5(2e^{5x}) = 0$

Q.3 Solve:- $(x^3 + y^3)dx = (x^2y + xy^2)dy$

$$\frac{dy}{dx} = \frac{x^3 + y^3}{x^2y + xy^2} = \frac{(\lambda x)^3 + (\lambda y)^3}{(\lambda x)^2(\lambda y) + (\lambda x)(\lambda y)^2}$$

$$= \frac{\lambda^3(x^3 + y^3)}{\lambda^3(x^2y + xy^2)}$$

homo. diff. eq.