

# - 1 - Further Additions and Corrections

## Systems of Equations

- 1/. Page 1: At the bottom of the page,  $\vec{b} = \begin{bmatrix} b_1 \\ b_2 \\ \vdots \\ b_n \end{bmatrix}$
- 2/. Page 7: At the bottom of the page, "Further,  $\tilde{A}$  is a square matrix,". NOT  $|\tilde{A}|$  (It is the determinant)

## Numerical Solution of Differential Equations

- 1/. Page 2: 
$$y(x) e^{-ax} = \int_{x_0}^x b(x) e^{-ax} dx + C$$
 (added)  $\uparrow$
- 2/. Page 3: 
$$\int \frac{dy}{y} - \int \frac{d(-y)}{1-y} = \int dx$$
 The integral sign is missing in the first term.
- 3/. Page 5: "...there is a unique function  $y(x)$ ..."
- 4/. Page 10: 
$$y-1 = v^2 - 2v \ln v + C v$$
 ~~Incorrect~~  

$$\Rightarrow y-1 = (x+1)^2 - 2(x+1) \ln(x+1) + C(x+1)$$
 Corrected  
 When  $x=0, y=2$  Corrected  $\Rightarrow 1 = 1 - 2 \times 1 \times 0 + C \times 1 \Rightarrow C=0$
- 5/. Page 20: At the bottom of the page,  $\vec{y}'(x) = \vec{f}(x, \vec{y}(x))$   
 The prime symbol is missing in the left side.
- 6/. In "add-2018-5b.pdf", Page 2: On the General Second-order Autonomous Differential Equation.  

$$\frac{dy}{dt} = -F(x, y)y - G(x, y)x$$
 Corrected. It is NOT  $y$  but  $x$ .