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18/Eng024/020

Elect

1.) Define a dynamic equation

Ans:

This refers to a differential equation in continuous time. It is an equation that depicts changes in a variable or function with respect to time scale

2.) Equation $1 - \dot{y} = Ate^t$

soln/

$$\dot{y} = Ate^t$$

$$A = \dot{y} / te^t \dots \textcircled{2}$$

$$\frac{dy}{dt} = Ate^t + Ate^t$$

dt

$$\frac{dy}{dt} = Ate^t + y$$

dt

$$\frac{dy}{dt} = \left(\frac{y}{te^t}\right)e^t + y$$

$$\frac{dy}{dt} = \frac{y}{t} + y$$

$$\frac{dy}{dt}(t) = y + y^t$$