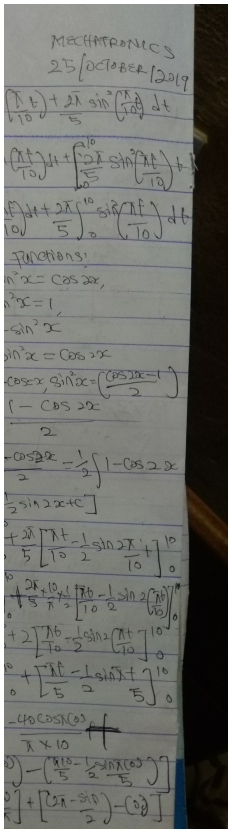

MECHATRONICS
25/OCTOBER/2019

$$\left(\frac{\pi t}{10}\right) + \frac{2\pi}{5}\sin^2\left(\frac{\pi t}{10}\right) dt$$

$$\left(\frac{\pi t}{10}\right) dt + \int_0^{10} \frac{2\pi}{5}\sin^2\left(\frac{\pi t}{10}\right) +$$

$$\left(\frac{\pi t}{10}\right) dt + \frac{2\pi}{5}\int_0^{10} \sin^2\left(\frac{\pi t}{10}\right) dt$$

Functions;

$\sin^2 x = \cos 2x$,

$\sin^2 x = 1$,

$= \sin^2 x$

$\sin^2 x = \cos 2x$

$\cos x$, $\sin^2 x = \left(\frac{\cos 2x - 1}{2}\right)$

$\frac{1 - \cos 2x}{2}$

$\frac{1 - \cos 2x}{2} = \frac{1}{2}\int 1 - \cos 2x$

$\frac{1}{2}\sin 2x + c$]

$+ \frac{2\pi}{5}\left[\frac{\pi t}{10} - \frac{1}{2}\sin\frac{2\pi}{10} +\right]_0^{10}$

$\frac{2\pi}{5} \times \frac{10}{\pi} \times \frac{1}{2}\left[\frac{\pi t}{10} - \frac{1}{2}\sin 2\left(\frac{\pi t}{10}\right)\right]_0^{10}$

$+ 2\left[\frac{\pi t}{10} - \frac{1}{2}\sin 2\left(\frac{\pi t}{10}\right)\right]_0^{10}$

$+ \left[\frac{\pi t}{5} - \frac{1}{2}\sin\frac{2\pi}{5} +\right]_0^{10}$

$\frac{-4\pi\cos\pi(0)}{\pi \times 10}$ +

$- \left(\frac{\pi \times 0}{5} - \frac{1}{2}\frac{\sin\pi(0)}{5}\right)$]

$+ \left[\frac{2\pi}{2} - \frac{\sin}{2}\right) - (0)$]