

**Answer Key – Multiple-Choice Test - Runge-Kutta 2nd Order Method
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1 – B - $\frac{dy}{dx} = \frac{1}{3}(\sin x - xy^2), y(0) = 5$

2 – A - -4297.4

3 – C - -2.6188

4 – A – 3904.9 m

5 – B - $y_{i+1} = y_i + (3e^{-2x_i} - 5y_i)h + (-21e^{-2x_i} + 25y_i)\frac{h^2}{2}$

6 – A - $\frac{d\theta}{dt} = -2.20673 * 10^{-13}(\theta^4 - 81 * 10^8) - 1.602 * 10^{-2}(\theta - 300)$

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Page 1 of 1