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MATRIC NO: 16/ENG03/033

DEPT: CIVIL ENGINEERING

ASSIGNMENT 2 SOLUTION

$$f(x) = e^{-0.5x}(4 - x) - 2$$

$$f'(x) = \frac{e^{-0.5x} * (x - 2)}{2} - e^{-0.5x}$$

Using the formulas below and a guess value of 0.5

$$x_{i+1} = x_i - \frac{f(x)}{f'(x)}$$

$$Ea = abs \left| \frac{x_{i+1} - x_i}{x_{i+1}} \right| * 100\%$$

i	x	Ea
0	0.5	0
1	1.119232	55.32649
2	0.72982	53.35725
3	0.983396	25.78576
4	0.821969	19.63902
5	0.926229	11.2564
6	0.859516	7.761741
7	0.90246	4.75853
8	0.874922	3.147392
9	0.892624	1.983086
10	0.881263	1.289159