Assignment => 2

Do manual calculation upto two iterations

$$f(x) = x^4 + 3x^2 + 10$$

Iterations

① :-

$x = 2$ and $\ell = 0.01$

$x^4 + 3x^2 + 10$

$4x^3 + 6x + 0$

$4(2)^3 + 6(2)$

=> $32 + 12$

=> 44

$\Delta x = 0.01 \times 44$

= 0.44

Now x value => $x = 2 - 0.44$

= 1.56 //

② :-

Take $x = 1.56$

$4x^3 + 6x$ => $4(1.56)^3 + 6(1.56)$

=> $4 \times 3.796 + 6 \times 1.36$

=> 24.544

$\Delta x = 0.01 \times 24.544 = 0.24544$

Now x value => $x = 1.56 - 0.24544$

=> 1.31456 /