Iteration 1:

$f(x) = 3x^2 + 5e^{-y} + 10$, $n = 0.001$

let, initial value of $x = 2$, $y = 2$

$$\frac{\partial f(x,y)}{\partial x} = 6x \quad , \quad \frac{\partial f(x,y)}{\partial y} = -5e^{-y}$$

Gradient of $x = 2$, $\Rightarrow 6 \times 2 = 12$

Gradient at $y = 2 \Rightarrow -5e^{-2} = -0.67662$

$\Delta x = -0.001 \times 12$ $\Delta y = -0.001 \times -0.67662$

$\quad = -0.012$ $= 6.7667 \times 10^{-4}$

$x = 2 - 0.012 = 1.988$

$y = 2 + 6.7662 \times 10^{-4} = 2.000676$

Iteration 2:

Gradient at $x = 1.988 \Rightarrow 1.988 \times 2 = 11.928$

Gradient at $y = 2.600676 \Rightarrow 0.676219$

$\Delta x = -0.001 \times 11.928$ $\Delta y = -0.001 \times 0.676219$

$\quad = 0.011928$ $= 676219 \times 10^{-4}$

$x = 1.988 - 0.01928$ $y = 2.000676 + 6.7627 \times 10^{-4}$

$x = 1.9760$ $= 2.0013436$