3.6.7.3 Quiz 3

IE M 50% $\longrightarrow$ pass $p(M|S) = ?$

EEE 30% $\longrightarrow$ 60%

Solution: ① S – pass exam , M – from IEM,

E – from EEE

② $p(M) = 1 - 0.6 = 0.4$

$p(E) = 0.6$

$p(S|M) = 0.5$

$p(S|E) = 0.3$

$p(M|S) = \dfrac{p(S|M)\, p(M)}{p(S)}$

$= \dfrac{p(S|M)\, p(M)}{p(S|M) p(M) + p(S|E)\, p(E)}$

$= \dfrac{0.5 \times 0.4}{0.5 \times 0.4 + 0.3 \times 0.6}$

$= \dfrac{10}{109}$

$= 0.09174$