Q5. The Three models with $P_{1,3}$ = true have possibilities 0.0001, 0.0099, 0.0099. The two models with $P_{1,3}$ = false have prob. 0.0001 and 0.0099. Then,

$$P(P_{13} \mid known, b) = \alpha \langle 0.01(0.0001 + 0.0099 + 0.0099), 0.99(0.0001 + 0.0099) \rangle$$

$$= \alpha \langle 1.99 \times 10^{-4}, \quad 99 \times 10^{-4} \rangle$$

$$= \langle \frac{1.99}{100.99}, \frac{99}{100.99} \rangle = \langle 1.9705\%, 98.0295\% \rangle$$

$$P(P_{22} \mid known, b) = \alpha \langle 0.01(0.0001 + 0.0099 + 0.0099 + 0.9801), (0.99 \times 0.0001) \rangle$$

$$= \alpha \langle 10^{-2}, 0.99 \times 10^{-4} \rangle = \langle \frac{10^{-2}}{10^{-2} + 0.99 \times 10^{-4}}, \frac{0.99 \times 10^{-4}}{10^{-2} + 0.99 \times 10^{-4}} \rangle$$

$$= \langle \frac{1}{1.0099}, \frac{0.0099}{1.0099} \rangle$$

$$= \langle 99.0197\%, 0.9803\% \rangle$$

$\therefore$ $P_{22}$ is certain death with 99%. $\therefore$ a logistic person has equal prob. of choosing each one at $p = \frac{1}{3}$; but a probabilistic person will chose pit [1,3] or [3,1] as each have probability of 1.97% of facing death.