

a) Probability that school is closed due to state's school closure notice?

$$P(+SC/+S) = \frac{P(+SC, +S)}{P(+S)}$$

$$= \frac{1}{P(+S)} P(+SC, +S, T, P, C)$$

$$= \frac{1}{P(+S)} P(+S) P(+SC/+S, C) P(T) P(P) P(C/T, P)$$

$$= P(+SC/+S, C) P(T) P(P) P(C/T, P)$$

$$= 0.98 \times 0.01 \times 0.04 \times 0.98$$

$$= 0.00038416.$$

$$b) P(+SC/+C, +T, +P) = \frac{P(+SC, +C, +T, +P)}{P(+C, +T, +P)}$$

$$= \frac{P(S, +SC, +C, +T, +P)}{P(+C, +T, +P)} = \frac{P(S) P(+SC/+C, S) P(+T) P(+P)}{P(+C, +T, +P)}$$

$$= \frac{P(S) P(+SC/S, +C) P(+T) P(+P) P(+C, +T, +P)}{P(+C, +T, +P) P(+T) P(+P)}$$

$$= P(S) P(+SC/S, +C)$$

$$= 0.001 \times 0.98$$

$$= 0.00098$$