Erhan Gankal

Probability Assignment

1) The probability of not choosing a man = The prob. of choosing a woman.

$$1 - \frac{21}{45} = \frac{24}{45} \qquad (a)$$

2) These are two independent events:

P(A): The prob. that he would travel by plane.

P(B): The prob. that the plane crashes.

$$P(A \cap B) = P(A) \cdot P(B) = (0.10)(0.005) = 0.0005$$

(d)

3) (b)

4) P: Tested positive

S: Suffering from the disease.

$$P(P) = P(P/S) \cdot P(S) + P(P/\bar{S}) \cdot P(\bar{S})$$

$$= \underbrace{(0.98)(0.005)}_{\text{The prob. of testing positive if suffers}} + \underbrace{(0.10)\cdot(0.995)}_{\text{The prob. of testing positive if no suffering.}}$$

$$= 0.1044 \quad (= 10.44\%)$$

(c)