2 Sol :-

P → Diagnosis Result is Positive

B → Tumor is Benign

C → Tumor is Cancerous

Bayes's formula in this case will be

$$P(C|P) = \frac{P(P|C)P(C)}{(P(P|C)P(C) + P(P|B)P(B))}$$

$$= \frac{0.80 \times 0.01}{(0.80 \times 0.01) + (0.10 \times 0.99)}$$

$$\simeq 0.075$$

$$= 7.5\%$$

∴ The probability of a patient testing positive for cancer is 7.5%