PROBABILITY

UDAY KUMAR - FWC22086

Q-12,13.1,16

If P(A) = $\frac{1}{2}$,P(B)=0,then $P(A|B)$ is

a)0 b)$\frac{1}{2}$

c)not defined d)1

solution
From the defnition of conditional probability

$$P(A|B) = \frac{P(AB)}{P(B)} \tag{1}$$

given P(B) = 0 implies B = $\emptyset$

$$\text{A.B} = \emptyset$$

$$P(A, B) = 0$$

$$P(A|B) = \frac{P(A.B)}{P(B)}$$

$$P(A|B) = \frac{0}{0}$$

$$\therefore P(A|B) \text{ is not defined}$$