PROBABILITY

DIVYA SAI - FWC22094

13.2.6 [1] **Let E and F be events with P(E)=$\frac{3}{5}$,P(F)=$\frac{3}{10}$ and P(E $\cap$ F)= $\frac{1}{5}$.Are E and F independent?**

Given: P(E) = $\frac{3}{5}$,P(F)=$\frac{3}{10}$ and P(E $\cap$F)= $\frac{1}{5}$

Solution:
Two events are said to be independent if

$$P(E \cap F) = P(E).P(F)$$

$$\text{P(E).P(F)}=\frac{3}{5}.\frac{3}{10} = \frac{9}{50}$$

$$\text{P(E} \cap \text{F)}=\frac{1}{50}$$

Since, P(E $\cap$ F)$\neq$ P(E).P(F)
$\therefore$ E and F are not independent events

[1]Read question numbers as (CHAPTER NUMBER).(EXERCISE NUMBER).(QUESTION NUMBER)