Que2:

A survey shows that 63% of the people in a city read newspaper A whereas 76% read newspaper B. If x% of the people read both the newspapers, then a possible value of x can be :

(a) 29
(b) 37
(c) 65
(d) 55

Ans:

(d) Let $n(U) = 100$, then $n(A) = 63, n(B) = 76$

$n(A \cap B) = x$

Now, $n(A \cup B) = n(A) + n(B) - n(A \cap B) \leq 100$

$= 63 + 76 - x \leq 100$

$\Rightarrow x \geq 139 - 100 \Rightarrow x \geq 39$

$\because n(A \cap B) \leq n(A) \Rightarrow x \leq 63$

$\therefore 39 \leq x \leq 63$