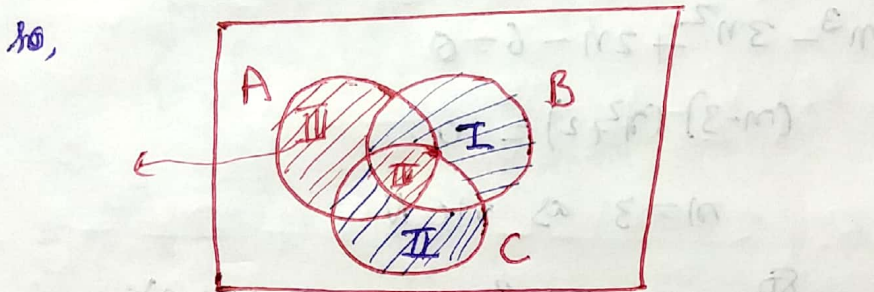


Ques: Which of the following equality is not true.

- (a) $A \cap (B - C) = A \cap B - (A \cap C)$
- (b) $A \cap (A \cap B) = A - B$
- (c) $A - (B - C) = (A - B) \cup (A \cap C)$
- (d) $A \cap (B \cap C) = (A \cap B) \cap (A - C)$

Solution:- Answer is (d).

We will see each equality using Venn diagrams so that we can solve our time.

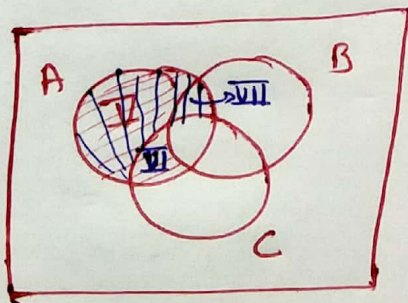


So (a), (b), (c) you can verify by yourself using Venn diagram let see the (d) part.

So I and II consisting $B \cap C$.

III and IV make $A \cap (B \cap C)$.

Let see RHS of part (d).



So region $(A - B) \cap (A - C)$ is consist of VII and VIII

but in LHS it was region III and IV

So $LHS \neq RHS$.