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## MATHS

## BOOKS - JEE MAINS PREVIOUS YEAR

## MATHEMATICAL REASONING

## Others

1. Let $S$ be a non-empty subset of $R$. Consider
the following statement: P : There is a rational number $x \in S$ such that $x>0$.

Which of the following statements is the negation of the statement $P$ ?

There is no rational number $x \in S$ such that $x \leq 0$ (9)

Every rational number $x \in S$ satisfies $x \leq 0$ (18)
$x \in S$ and $x \leq 0 \Rightarrow x(27)$ is not rational

There is a rational number $x \in S$ such that $x \leq 0$ (36)
2. The statement $\sim(p \leftrightarrow \sim q)$ is (1) equivalent to $p \leftrightarrow q$ (2) equivalent to $\sim p \leftrightarrow q$ (3) a tautology (4) a fallacy

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3. The negation of $\sim s \vee(\sim r \wedge s)$ is equivalent to : (1) $s \wedge \sim r(2) s \wedge(r \wedge \sim s)(3) s \vee(r \vee \sim s)$
(4) $s \wedge r$

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