

① L_{xy} "x loves y" $\exists x \exists y L_{yx}$

is Someone is loved by everyone

②

Note: This is different from "Everyone loves someone"

② Q: "Would the other rep say that you always tell the truth?" ②
If you ask "Are you a class rep?" you are using something implicit; what is known is: "one CR tells the truth & the other one lies always". Still you get ① mark. If you ask "Does sunrise in the east?" or "Is Sunday a holiday?" etc. no credit will be given.

Based on the answer taking the right decision ① mark
only if you get the first part right.

③ Argument: <may differ>

② marks if very clearly written
① if correct & unclear
① if not correct / not at all clear

Formula: $n-k+1 C_k$ ②

Answer: 10 or 15 as the case may be ①

④ ① $T \rightarrow B \vee E$ ② $\sim E \wedge T$ ③ $T \wedge \sim E$ 2: Comm.
④ T (3: Simp.) ⑤ $B \vee E$ (1, 4: MP) ⑥ $\sim E$ (2: Simp.)
⑦ B (5, 6: DS) 6 x 2 = ③ marks

⑤ MATHEMATICS: $11! / 2! 2! 2! = 4989600$ ② marks
SCIENCE: $7! / 2! 2! = 1260$