TOPIC:10.- Problems on Predicate Calculus

① Give the symbolic form of the statement, "Every book with a blue cover is a Maths book".

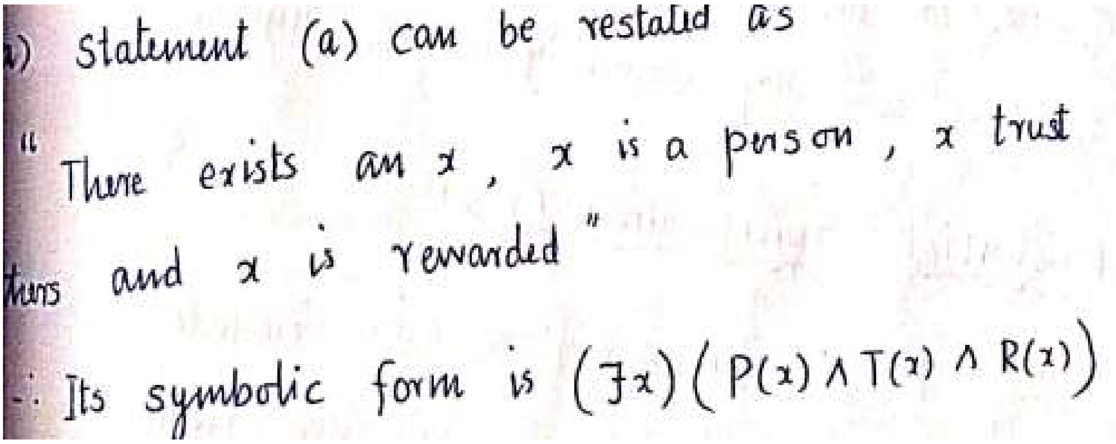
For all x, if x is a book with blue cover, then x is a Maths book.

$$(\forall x) : (B(x) \rightarrow M(x))$$

where $B(x)$: x is a book with blue cover
$M(x)$: x is a Maths book.

(2) Let $P(x)$: x is a person
$T(x)$: x trusts others
$R(x)$: x is a rewarded
$G(x)$: x is Good
$Q(x)$: x is teasing

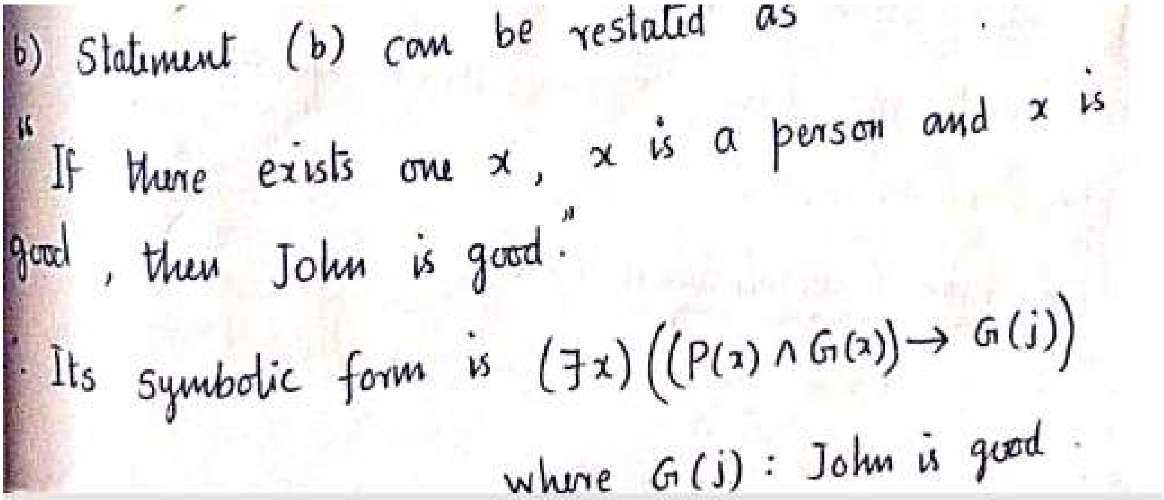
Symbolize the following statements:
(a) Some people who trust others are rewarded.
(b) If any one is good then John is good.
(c) Some one is teasing.



) Statement (a) can be restated as

"There exists an x, x is a person, x trust thers and x is rewarded"

$\therefore$ Its symbolic form is $(\exists x)(P(x) \wedge T(x) \wedge R(x))$

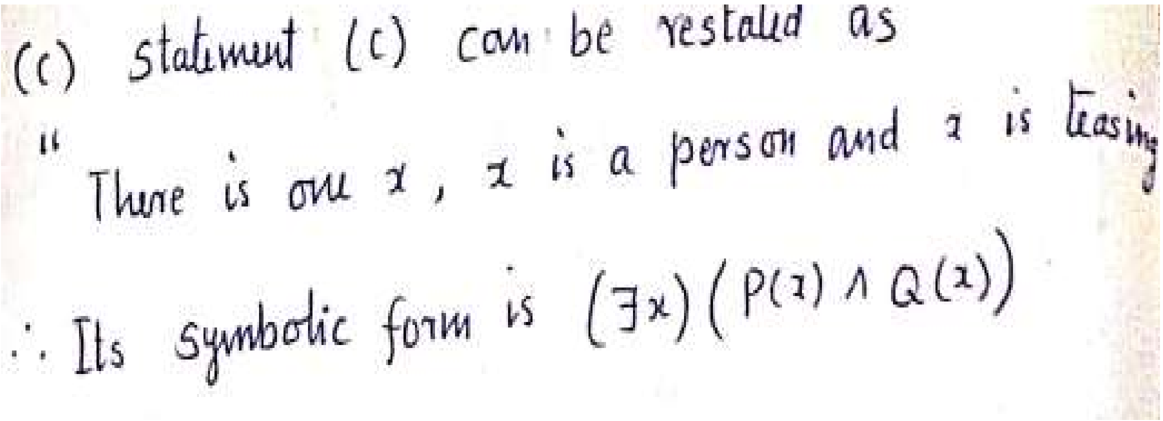


b) Statement (b) can be restated as

"If there exists one x, x is a person and x is good, then John is good."

$\therefore$ Its symbolic form is $(\exists x)((P(x) \wedge G(x)) \rightarrow G(j))$

where $G(j)$: John is good.



(c) statement (c) can be restated as

"There is one x, x is a person and x is teasing

$\therefore$ Its symbolic form is $(\exists x)(P(x) \wedge Q(x))$