30/01/21

2019A7PS0120H
K Raghavendra

Section-2

b) ~~If~~

b) If $L_1 \cup L_2$ is regular and L_1 is finite then L_2 is regular.

Ans:- The statement is true, because we cannot make an irregular set S regular by adding a finite number of elements to it.

~~for~~ example, $R' \cup F' = T'$ be regular,

& $F' \longrightarrow F'$ represents a finite set.

$R' \cup (F' - R') = T$ } both the sets are disjoint

$\Rightarrow R' = T - (F' - R')$

$\Rightarrow R' = T \cap (F' - R')$

$T \longrightarrow$ Regular and finite

$F' - R'$ should also be a finite set / Regular set.

& If $L_1 \cup L_2$ is regular, ~~if~~ (if L_1 is finite then L_2 is regular)