Ex. 6(B)

i) Cardinal Number of set $A_1 = 5$

ii) $x \in N$ and $3 \leq x < 7 = 3, 4, 5, 6, 7$
So, Cardinal number of set $A_2 = 4$

iii) $A_3 = \{p : p \in W \text{ and } 2p - 3 < 8\}$

$p \in W$ and $2p - 3 < 8$

$= 2p < 8 + 3$
$= 2p < 11$
$= p = \frac{11}{2}$

$= p = 5.5$

$A_3 = \{0, 1, 2, 3, 4, 5\}$
So cardinal number of set $A_3 = 6$

iv) $A_4 = \{b : b \in Z \text{ and } -7 < 3b - 1 \leq 2\}$

$b \in Z$ and $-7 < 3b - 1 \leq 2$

$= -7 < 3b - 1$
$= -7 + 1 < 3b - 1 + 1$ (Adding 1 to both sides)
$= -6 < 3b$
$= \frac{-6}{3} < b$

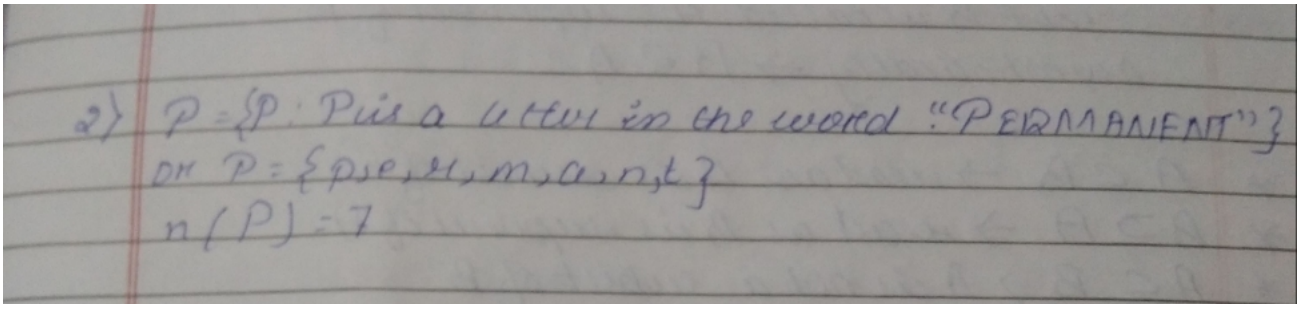
$= -2 < b$

Again $3b - 1 \geq 2$
$= 3b \geq 2 + 1$
$= 3b \geq 3$
$= b = 3 \times 3 = 1$

$b > 1$

$-2 < b \leq 1 \quad = \{-1, 0, 1\}$

Cardinal number of set $A_4 = 3$


2) P = {P : P is a letter in the word "PERMANENT"}
OR P = {p, e, r, m, a, n, t}
n(P) = 7