13-B

i) A = Set of days in a leap year.

$\Rightarrow n(A) = 366$

ii) B = Set of no. on a clock-face.

$\Rightarrow n(B) = 12$

iii) $C = \{x : x \in N \text{ and } x \leq 7\} \Rightarrow n(C) = 7$

iv) D = Set of letters in the word "panipat"

$\Rightarrow n(D) = 5$

v) E = Set of prime numbers between 5 and 15.

$\Rightarrow n(E) = 3$

vi) $F = \{x : x \in Z \text{ and } -2 < x \leq 5\}$

$\Rightarrow n(F) = 7$

vii) G = {x : x is a perfect square number, $x \in N$ and $x \leq 30$}.

$\Rightarrow n(G) = 5$

i) {natural numbers more than 100}

= infinite set

ii) A = {x : x is an integer between 1 and 2}

= null set

iii) B = {x : x ∈ W; x is less than 100}

= finite set

iv) Set of mountains in the world

= infinite set

v) {multiples of 8}

= infinite set

vi) {even numbers not divisible by 2}

= null set

vii) {squares of natural numbers}

= infinite set

viii) {coins used in India}

= finite set

ix) C = {x | x is a prime number between 7 and

= null set.

x) Planets of the Solar System

= finite set

i) {0, 1, 2, 6, 8} and {odd numbers less than 10}

-> not disjoint

ii) {birds} and {trees}

-> disjoint

iii) {x : x is a fan of cricket} and {x : x is a fan of football}

-> not disjoint

iv) A = {natural numbers less than 10} and B = {x : x is a multiple of 5}.

-> not disjoint

v) {people living in calcutta} and {people living in West Bengal}

-> not disjoint.

4- i) A = {first four natural numbers} = {1, 2, 3, 4} and
B = {first four whole numbers} = {0, 1, 2, 3}

= it is an equivalent set.

ii) A = set of letters of the word FOLLOW = {F, O, L, W}
B = set of letters of the word WOLF = {W, O, L, F}

= it is an equal set.

iii) E = {even natural numbers less than 10} = {2, 4, 6, 8}
O = {odd natural numbers less than 9} = {1, 3, 5, 7}

= it is an equivalent set.

iv) A = {days of the week starting with S} =
{Sunday, Saturday}

B = {days of the week starting with letter T} =
{Tuesday, Thursday}

= equivalent set.

v) M = {multiples of 2 and 3 between 10 and 20} =
{12, 14, 15, 16, 18}
N = {multiples of 2 and 5 between 10 and 20} =
{12, 14, 15, 16, 18}

= equal set

vi) P = {prime numbers which divide 70 exactly}
= {2, 5, 7}
Q = {prime numbers which divide 105 exactly} =
{3, 5, 7}
= equivalent set

vii) A = $\{0^2, 1^2, 2^2, 3^2, 4^2\}$ = {0, 1, 4, 9, 16}
B = {16, 9, 4, 1, 0}

= equal set

viii) E = {8, 10, 12, 14, 16}

F = {even natural numbers between 6 and 18} = {8, 10, 12, 14, 16}

= equal set.

5 - i) The set of triangles having three equal sides.
= not an empty set.

ii) The set of lions in your class.
= an empty set.

iii) {X : X + 3 = 2 and X ∈ N)

= an empty set.

iv) P = {x : 3x = 0} = {0}. ~~which is not an empty set.~~
= not an empty set

7= Which of the following represen the null set ?

ϕ, {0}, 0, {}, {ϕ}

= ϕ and {} represent the null set as they do not have any element.