EX:-1o (D)

1. i) $\{3, 5, 7, \ldots\}$ I

ii) $\{1, 2, 3, 4\}$ F

iii) $\{\ldots, -3, -2, -1, 0, 1, 2\}$ I

iv) $\{10, 30, 40, 50, \ldots, 200\}$ I

2. i) Set of counting numbers between 5 and 6. [Empty]

ii) Set of odd numbers between 7 and 11. [Not empty]

iii) Set of odd numbers between 7 and 9. [Empty]

iv) Set of even numbers that are not divisible by 2. [Empty]

v) {0} [Not empty]

3. i) {3, 5, 7} and {5, 3, 7}. [Equal]

ii) {8, 6, 10, 12} and {3, 2, 4, 6}. [Equivalent]

iii) {7, 7, 2, 1, 2} and {1, 2, 7}. [Equal]

iv) {2, 4, 6, 8, 10} and {a, b, c, d, e, m}. [Equivalent]

4. i) Set of Integers. [Infinite]

ii) {multiple of 5}. [Infinite]

iii) {Fractions between 1 and 2}. [Infinite]

iv) {Number of People in India}. [Finite]

v) Set of trees in the world. [Infinite]

vi) Set of leaves on a tree. [Finite]

vii) Set of children in all the schools of Delhi. [Finite]

viii) {..... -4, -2, 0, 2, 4, 6, 8} Infinite

ix) {12, -7, -6, -3, 0, 3, 6, ...} Infinite

x) {Number of Points in a line segment 4 cm long}

Infinite

5. i) The number 2 is and also divisible by 2.
Hence, Set {Prime numbers divisible by 2} is
Not empty.

ii) The natural numbers start from 1
Hence, Set {Negative Natural numbers} is empty.

iii) There no Women with height 5 metre
Hence, Set {Women with height 5 metre} is empty

iv) There are integers less than 5
Hence, Set {Integers less than 5} is not empty.

v) There are Prime numbers between 1 and 23
Hence, Set {Prime numbers between 1 and 23}
is not empty.

vi) ~~Set of even~~ The even numbers Not divisible by
2 is empty

vii) The multiples of 3 that are more than
8 and 9 and less than 15} is not empty

6.i) {Natural} Here, both the sets have same number of elements
Hence, the given set of pair is equivalent.

ii) {2, 4, 6, 8, 10} is the roster form for the even natural numbers less than 12.
Hence, the given set of pair is equal.

iii) {1, 3, 5, 7} is the Roster form for the set of odd natural numbers
Hence, the given set of pair is equal.

iv) {Letters of the word MEMBER} and {Letters of the word 'REMEMBER'}
Here, the letters of both the sets are same
Hence, the given set of pair is equal

v) We know, there is no negative natural numbers and there is no month which has 50 days.
Thus both sets are empty. Hence, the given set of pair is equal.

vi) {Even natural numbers} and {odd natural numbers}
Hence, the given
set of pair is equivalent.

7.i) Given set {2, 4, 6, 8, ... 800}
ii) Here the given set has finite numbers of elements Hence, the set is finite.

ii) Given set {...., -5, -4, -3, -2}

Here the given set has infinite numbers of elements. Hence, the set is infinite.

iv) Given set

{No. of electrical appliances working in your house}

Here, the numbers of electrical appliances in house are finite. Hence, the finite.

vii) Given set {x : x is an integer between -60 and 60}
Here, the given set has finite number of elements.
Hence, the set is finite.

v) Given set

{x : x is a whole number greater than 20}
Here, the number of whole numbers greater than 20 is infinite.
Hence, the set is infinite.

vi) Given set

{x : x is a whole number less than 20}
Here, the number of whole numbers less than 20 is finite
Hence, the set is finite

i) {..... -8, -4, 0, 4, 8} is infinite set
Hence, the given statement is false

ii) $\{-32, -28, -24, -20, \ldots\ldots, 0, 4, 8, 16\}$ is finite set. Hence the given statement is false.

iii) $\{x : x$ is a natural number less than $1\}$ is an empty set. Hence the given statement is true.

iv) Both the sets are empty sets and we know that all empty sets are equal. Hence, the given statement is true.

vi) $\{$ Even natural numbers divisible by $3\}$ is an empty set. Hence the given statement is false.

vii) $\{x : x$ is positive and $x < 0\}$ is the empty set. Hence the given statement is true.

viii) $\{\ldots, -5, -3, -1, 1, 3, 5, \ldots\ldots\}$ is a finite set. Hence the given statement is false.

9. i) No girl can be or are below 15 years and also above 15 years. Hence, the given sets are disjoint sets.

ii) There are possibilities when the boys have age greater than 20 years and also above 27 years. Hence, the given sets are overlapping.

iii) There are common natural numbers that lies between 35 and 60 and also lies between 50 and 80. Hence, the given are overlapping.

iv) There are possibilities that students of class

IX studying in T.C.S.E. board are common.
Hence, the given sets are overlapping.

v) Since, 24 is the common natural number in both the given sets. Hence, the given sets are overlapping.

vi) Disjoint sets because of the common ~~set~~ terms of the words.