Ex-10(D)

(1) i) A) It is infinite set. {3, 5, 7, ...}

ii) {1, 2, 3, 4}
A) It is finite set.

iii) A) {..., -3, -2, -1, 0, 1, 2}
Infinite set.

iv) {20, 30, 40, 50, ... 200}
A) finite set

(2) Which of the following sets is empty?

i) A) It is empty set.

ii) A) It is not an empty set.

iii) A) It is empty set.

iv) A) It is empty set.

v) A) It is an empty set.

(3) i) A) Equal set

ii) A) Equivalent set

iii) A) Equal set

iv) Equivalent set

④ i) Infinite set
ii) Infinite set
iii) Infinite set
iv) finite set
v) Infinite set
vi) finite set
vii) finite set
viii) Infinite set

ix) Infinite set
x) Infinite set

⑤ i) It is not empty set.

ii) It is an empty set.
iii) Empty set

iv) Not empty set

v) Not empty set
vi) Empty set
vii) Not empty set

⑥ i) Equivalent set
ii) Equal set
iii) Equal set
iv) Equal set
v) Equal set
vi) Equivalent set

(7) i) $\{2, 4, 6, 8, \ldots, 800\}$

A) finite set

ii) $\{\ldots, -5, -4, -3, -2\}$

A) Infinite set

iii) $\{x : x$ is an integer between -60 and $60\}$

A) Finite set

iv) { No of electrical appliances coorking in your houses}

A) Finite set

v) { x : x is a cohole no. greater than 20}

A) Infinite set

vi) $\{x : x$ is a whole no. less than $20\}$
⇒ finite set

(8) For each statement given below, write True or false:

i) $\{\ldots, -8, -4, 0, 4, 8\}$ is a finite set : False

ii) $\{-32, -28, -24, -20, \ldots, 0, 4, 8, 16\}$ is an infinite set. False

iii) $\{x : x$ is a natural no. less than $1\}$ is the empty set. True

iv) $\{$whole no.s between 15 and $16\} = \{$Natural No.s between 5 and $6\}$ True (each set is empty set.)

v) $\{$odd no.s divisible by $2\}$ is the empty set. True

vi) $\{$Even natural no.s divisible by $3\}$ is the empty set. False (6 is an even natural no. which is divisible by 3.)

vii) $\{x : x$ is positive and $x < 0\}$ is a finite set. True (No positive can be less than 0.)

viii) $\{\ldots, -5, -3, -1, 1, 3, 5 \ldots\}$ is a finite set. False

Q) State, giving reasons, which of the following pairs of sets are disjoint sets and which are overlaping sets:

i) A = { Girls with ages below 15 years } and
B = { Girls with ages above 15 years }

A) Disjoint sets; as no girl can be of age below 15 years and also above 15 years.

ii) C = { Boys with ages above 20 years } and
D = { Boys with ages above 27 years }

A) Overlaping sets; as boys above 27 years are also above 20 years.

iii) A = { Natural no.s between 35 and 60 } and
B = { Natural no.s between 50 and 80 }

A) Overlapping sets; as natural no.s from 51 to 59 are common to both the sets.

iv) P = { Students of class IX Studying in ICSE Board } and
Q = { Students of class IX }

A) Overlaping sets; as students of class IX studying in ICSE Board are common.

v) A = { Natural no.s that are multiples of 3 and less than 30 } and
B = { Natural no's divisible by 4 and lying between 20 and 45 }

A) Overlaping sets; as natural no. 24 is common to both the sets.

vi) P = {letters in the word 'ALLAHABAD'} and
Q = {letters in the word 'MISSOURI'}

A) Disjoint sets; as no letter is common to both the sets.