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class- VI sec-B

Ex- 10 D

1. (i) {3, 5, 7, ...} Infinite

(ii) {1, 2, 3, 4} finite

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

(iv) {20, 30, 40, 50, ..., 200}
Finite

2. (i) Set of counting numbers between 5 and 6. Empty set

(ii) Set of odd numbers between 7 and 19.

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

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

(v) {0} Empty

3. (i) {3, 5, 7} and {5, 3, 7}
Equal

(ii) {8, 6, 10, 12} and {3, 2, 4, 6}
equivalent sets.

iv) {7, 7, 2, 1, 2} and {1, 2, 7}
Equal

v) {2, 4, 6, 8, 10} and {a, b, d, e, m}
Equivalent sets.

4. (i) Set of integers - Infinite

(ii) {Multiples of 5} - Infinite

(iii) {fractions between 1 and 2}
Finite

(iv) {Number of people in India}
Infinite

(v) Set of trees in the world.
Infinite

(vi) Set of leaves on a tree
Infinite

(vii) Set of children in all schools of delhi. finite

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

(ix) {-12, -9, -6, -3, 0, 3, 6, ...}
Infinite

(x) {Number of points in a line segment 4cm. long} Finite

5. (i) {Prime numbers divisible by 2}
empty

(ii) {Negative natural numbers}

(iii) {Women with height 5 metres}
empty

(iv) {Integers less than 5}.

(v) {Prime numbers between 1 and 23}

(vi) Set of even numbers divisible by 2. Empty

(vii) Set of multiples of 3 that is more than 9 and less than 15.

Ex-10 (D)

6. State if the given pairs of sets are equal or equivalent sets.

(i) {Natural number less than five} and {Letters of the word 'BOAT'}
Equivalent set

(ii) Equal set

(iii) Equal set

(iv) Not equal nor equivalent

(v) Equivalent set

(vi) Even natural numbers and odd natural numbers
Equivalent sets

7. (i) {2, 4, 6, 8 ..... 800} Finite
(ii) {x : x is a integer between -60 and 60}
Finite
(iii) {..... -5, -4, -3, -2, -1} Infinite
(iv) {No. of electrical appliencies working in your house} Finite
(v) {x : x is a whole number greater than 20} Infinite
(vi) {x : x is a whole number less than 20} Finite

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

(ii) $\{-32, -28, -24, -20 \ldots 0, 4, 6, 8\}$ is an infinite set. False.

(iii) $\{x : x$ is a natural number less than $1\}$ is the empty set. True

(iv) $\{$ Whole numbers between 15 and $63\}$
$= \{$ Whole numbers between 5 and $63\}$
True

(v) $\{$ odd numbers divisible by $2\}$ is the empty set. True

(vi) $\{$ Even natural numbers divisible by $3\}$ is the empty set. True

(vii) $\{x : x$ is positive and $x < 0\}$ is the empty set. True

(viii) $\{\ldots\ldots -5, -3, -1, 1, 3, 5, \ldots\}$ is the ~~empty~~ ~~se~~ finite set.
False

9. (i) $A = \{$ Girls with ages below 15 years $\}$ and
$B = \{$ Girls with ages above 15 years $\}$
Disjoint sets

(ii) $C = \{$ Boys with ages above 20 years $\}$ and
$D = \{$ Boys with ages above 24 years $\}$
Overlapping

(iii) $A = \{$ Natural numbers between 35 to $60\}$ and

B: {Natural numbers between 50 and 80}.
Overlapping sets

(iv) P: {Students of class IX studying in ICSE board}
Q: {students of class IX}
Overlapping sets

(v) A: {Natural numbers that are multiples of 3 and less than 30} and
B: {Natural numbers divisible by 4 and lying between 20 and 45}
Overlapping sets

(vi) P: {Letters in the word 'ALLAHBAD'}
Q: {Letters in the word 'MUSSORIE'}.
Disjoint sets