Ex No (D)

i. Set $\{x : x^2, x \in Z, \ldots\}$ is infinite

ii. Set $\{1, 2, 3, \ldots, 7\}$ is finite

iii. Set $\{\ldots -3, -2, -1, 0, 1, 2\}$ is infinite

iv. Set $\{20, 30, 40, 50, \ldots, 800\}$ is finite

Q.

i. $\{x : 5 < x < 6\}$ Hence, Its not an empty set.

ii. $\{x : x \in N, 1 < x < 2\}$ Hence, it is not empty set.

iii. $\{x : x \in N \text{ and } x < 1\}$ Hence its an empty set.

iv. $\{x : x \neq x\}$ Hence its an empty set.

v. $\{x : x < 0\}$ Hence, it is an empty set.

3. i) Equal

ii) Equivalent

iii) ~~Not~~ Equal

iv) Equivalent

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4) (i) Infinite

(ii) Infinite

(iii) Infinite

(iv) Finite

(v) Infinite

(vi) Finite

(vii) Finite

(viii) Infinite

(ix) Infinite

(x) Infinite

5) (i) Not empty

(ii) Empty

(iii) Empty

(iv) Not empty

(v) Not empty

(vi) Empty

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(iii) Not empty

6) (i) Equivalent

(ii) Equal

(iii) Equal

(iv) Equal

(v) Equal

(vi) Equivalent

7) (i) Finite

(ii) Infinite

(iii) Finite

(iv) Finite

(v) Infinite

(vi) Finite

8) (i) False

(ii) False

(iii) True

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(iv) True

(v) True

(vi) False

(vii) True

(viii) False

9) (i) Disjoint sets

(ii) Overlapping sets

(iii) Overlapping sets

(iv) Overlapping sets

(v) Overlapping sets

(vi) Disjoint sets.