## Classwork

Q. Give an example of each of the following sets
(1) Give an example of a set which has infinite number of limit points but has only one isolated point.
(2) Give an example of a set which has infinite number of isolated points but has only one limit point.
(3) Give an example of a set which has finite number of isolated points and finite number of limit points.
(4) Give an example of a set which has infinite number of isolated points and infinite number of limit point.
(5) Give an example of a set which has no limit point as well as isolated points.
Q. Find the limit points and isolated points of the following sets
(1) $S=(a, b)$,
(2) $S=[a, b]$,
(3) $S=(a, b]$,
(4) $S=[a, b)$,
(5) $S=\{x \in \mathbb{R}:|x| \leq 1\}$,
(6) $S=\{x \in \mathbb{R}:|\sin x| \leq 1\}$,
(7) $S=\left\{e^{x}: x \in \mathbb{R}\right\}$,
(8) $S=\{|x|: x \in \mathbb{R}\}$,
(9) $S=\{\log (x): x \in \mathbb{R}\}$,
(10) $S=\{2 x: x \in \mathbb{R}\}$,

