

M.Sc. SEM III
* Complete regular spaces TOPOLOGY.

Let X be a topological space.

Then X is said to be completely regular space if for every closed set A in X and a point $x \in X$ such that $x \notin A$, there exists a continuous function f such that $f: X \rightarrow [0, 1]$ and

$$f(x) = 0 \text{ and } f(A) = \{1\}$$

* Regular space

Let (X, T) be a topo. space. Let F be a closed set in X and let $x \in X$ but $x \notin F$ then there exists open sets U and V such that

$$x \in U, F \subseteq V \text{ and } U \cap V = \emptyset$$

* Every completely regular space is a regular space.