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Class-XI^{SC} (MATHS)

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Complement of a Set \Rightarrow

Let U be the universal set and A a subset of U . Then the complement of A is the set of all elements of U which are not the elements of A . Symbolically, we write A' to denote the complement of A with respect of U , thus

$$A' = \{x : x \in U, \text{ and } x \notin A\}, \text{ obviously}$$

$$A' = U - A$$

Ex \rightarrow Let $U = \{1, 2, 3, 4, 5, 6, 7, 8, 9, 10\}$

$$A = \{1, 3, 5, 7, 9\}$$

$$A' = U - A$$

$$= \{1, 2, 3, 4, 5, 6, 7, 8, 9, 10\} - \{1, 3, 5, 7, 9\}$$

$$= \{2, 4, 6, 8, 10\}$$

(Q) Let U be universal set of all the students of class XI of a Co-educational School and A be the set of all girls in class XI, find A' .

Ans \rightarrow Clearly A' represent the set of all boys in the class.

Note :-

$$\Rightarrow (A')' = A$$

$$\text{i.e. } (A')' = \{x : x \in U \text{ and } x \notin A'\}$$
$$= \{1, 3, 5, 7, 9\}$$

$$= A.$$

~~Q~~ Solve Ex - 1.5 (N.C.E.R.T)
from 1. to 2.