1. If X and Y are two sets, then $X \cap (X \cup Y)^c$ equals. *(1979)*

(a) X (b) Y

(c) ϕ (d) None of these.

Solution: -

1. **(c)** $X \cap (X \cup Y)^c = X \cap (X^c \cap Y^c) = (X \cap X^c) \cap Y^c$

$$= \phi \cap Y^c = \phi$$