

7/04/21  
class

## Distributive laws -

$$\left. \begin{aligned} A \cup (B \cap C) &= (A \cup B) \cap (A \cup C) \\ A \cap (B \cup C) &= (A \cap B) \cup (A \cap C) \end{aligned} \right\}$$

EX-6D

(I)  $A = \{4, 5, 6\}$

$$B = \{0, 1, 2, 3\}$$

(II)  $A \cup B = \{0, 1, 2, 3, 4, 5, 6\}$

(III)  $A \cap B = \{ \} \text{ or } \emptyset$

(IV)  $A - B = \{4, 5, 6\}$

$$B - A = \{0, 1, 2, 3\}$$

$$A \cap B = \emptyset$$

$$2. \quad P = \{4, 5, 6, 7, 8\}$$

$$Q = \{1, 2, 3, 4, 5\}$$

$$P \cup Q = \{1, 2, 3, \dots, 8\}$$

$$P \cap Q = \{4, 5\}$$

$$(P \cup Q) \supset (P \cap Q)$$

$$3) (A \cup B) \cup C$$

$$C = \{1, 2, 3, 4, 5\}$$

$$B = \{4, 5, 6, 7\}$$

$$A = \{5, 6, 7, 8, 9\}$$

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

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